



UNIT 4

Advanced Bicycle Handling Skills

OBJECTIVES

At the conclusion of this unit the student will be able to:

1. Demonstrate a variety of on-the-bike skills from previous lessons, during the warm-up ride, as measured by successful completion of the Course Ride. (Psychomotor)
2. Demonstrate exceptional or reliable performance of the Figure 8 Ride skill as measured by the Figure 8 rubric. (Psychomotor)
3. Demonstrate exceptional or reliable performance of the Snail Race as measured by the Snail Race rubric. (Psychomotor)
4. Demonstrate exceptional or reliable performance of gearing as measured by the gearing rubric. (Psychomotor)
5. Demonstrate exceptional or reliable performance of the Water Bottle Pickup as measured by the gearing rubric. (Psychomotor)
6. Demonstrate exceptional or reliable performance of the Bunny Hop as measured by the Bunny Hop rubric. (Psychomotor)
7. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
8. List and describe key concepts from Unit 4 that illustrate a clear understanding of the need to have advanced bicycle handling skills, as measured by providing responses to questions in journals. (Cognitive)
9. Describe how they feel about their ability to ride safely and their level of enjoyment of bicycling, as measured by providing responses to questions in journals. (Affective)

The skill-based activities in Units 1-3 create the foundation for safe bicycling. Regardless of students' skill level or previous bicycling knowledge, the skill-based activities in Units 1-3 should be completed *before* completing the activities in Unit 4.

NATIONAL STANDARDS FOR K-12 PHYSICAL EDUCATION

Standard 1

The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

Standard 2

The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3

The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4

The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5

The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

KEY VOCABULARY/TERMS

Bicycle Trainer: A piece of equipment that makes it possible to ride a bicycle while it remains stationary. They are commonly used to train for races, or when riding conditions outside are not favorable. Using a trainer indoors allows the rider to perform other activities while riding, looking down at gears, without risk of injury.

Bunny Hop: An advanced skill that strengthens the rider's ability to avoid an obstacle by jumping over the obstacle while on the bicycle.

Cadence/Pedal RPM: The number of times during one minute that a pedal stroke is completed. It is the rate of pedaling measured in revolutions per minute.

Course Ride/Velo Ride: A designated riding course with bicycle skill stations set up along the course.

Figure 8/Turn and Yield: An advanced skill that strengthens the rider's ability to turn in different directions yield while maintaining balance, control, speed and distance.

Snail Race/Slow Race/Wobble Ride: An advanced skill that strengthens the rider's ability to ride at a slow speed. Riders start the race together and the last one across the finish line wins—no weaving or touching the ground is allowed. The purpose of this race is to reward low speed that requires balance skills.

Water Bottle Pickup: An advanced skill that strengthens the rider's ability to take a hand off the handlebar while maintaining balance, control, speed and distance.

ACTIVITIES

Each unit should include three types of activities: introduction, skill-based with assessments and cool-down/closure. In some cases, more than one activity option is offered for the introduction and closure; choose the appropriate activities that fit into your allotted class time when developing your lesson plans. If class time is too short to allow for all three types of activities, focus your lesson on the skill-based activities.

Introduction: The following activity can be used to introduce this unit of learning.

- Course Ride

Skill-Based with Assessments: Each skill-based activity is associated with an assessment to measure student knowledge and application of the identified skill. Depending on the amount of class time available and the skill level of students, more than one of the following skill-based activities may be completed during one class.

- Figure 8
- Snail Race
- Gearing
- Water Bottle Pickup
- Bunny Hop
- Advanced Cycling Skill Stations

Closure: The following activity can be used to conclude this unit of learning. If desired, this activity can be assigned as homework.

- Journal writing

EQUIPMENT NEEDED

- Helmets
- Head barriers
- Bicycles
- Bicycle Trainers (optional but recommended)
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polyspots or chalk to mark riding course
- Pencils
- Student journals
- Cones for Water Bottle Pickup activity
- Water bottles or other equipment students can pick up off a cone (bean bags, yarn balls, tennis balls, etc.)
- Chalk, jump ropes and very small sticks for Bunny Hop activity

CROSS-CURRICULAR ACTIVITIES

Language Arts

- Journal writing

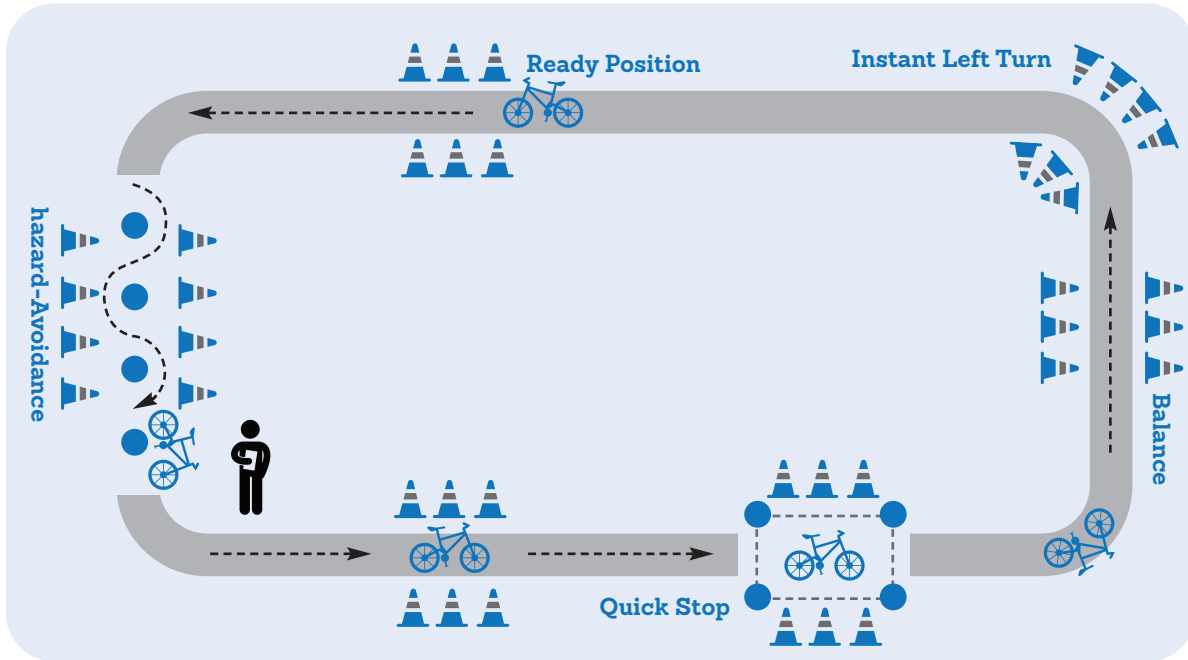


INTRODUCTION ACTIVITY

Course Ride

- Timeframe** **Beginner:** 10 minutes
Intermediate: 10 minutes
Advanced: 10 minutes
- Objective** At the conclusion of this activity students will be able to:
1. Demonstrate a variety of on-the-bike skills from previous lessons, during the warm-up ride, as measured by successful completion of the Course Ride. (Psychomotor)
- National Standards** Standard 1
Standard 2
Standard 3
Standard 4
Standard 5
- Equipment**
- Helmets
 - Head barriers
 - Bicycles
 - Bicycle pump
 - Allen wrench
 - Red floor tape
 - Cones, domes, polypots or chalk to mark riding course
- Teacher Overview** This activity prompts students to practice some basic skills of cycling from Units 2 and 3, such as: controlled braking, Power Start, scanning and emergency skills. This activity should be used as the 'Check' component of the ABC Quick Check.
- Preparation**
1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
 2. Set up skill stations along the course to enable students to practice any of the skills from Units 2 and 3 that the teacher selects.

Diagram: Course Ride



Directions

1. Introduce the activity using the following prompt:

Today, we will be learning about some advanced bicycle handling skills. Most of these skills build on the basic skills of balance, braking and control of the bicycle that we have learned in previous units. To help prepare for this, we will be practicing some of these basic skills before moving forward.

2. Divide students into groups of two or three.
3. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
4. Instruct students to retrieve bicycles according to number assigned.
5. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly and to provide prompts if an item was missed. Switch roles.
6. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
7. Inspect helmets for proper fit; revise fit if necessary.
8. Instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check; complete each skill station that they encounter on the course and when finished return to the teaching station.

Assessments

1. Successful completion of the course.

Blow a whistle during the course ride to prompt students to perform a Quick Stop.

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Set up a course that is flat, simple and not too long.
- It may be necessary to allow more breaks for students who are less skilled and/or fit.

Intermediate and Advanced

- Set up a more challenging course. This may include being longer, having turns or including hills.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.

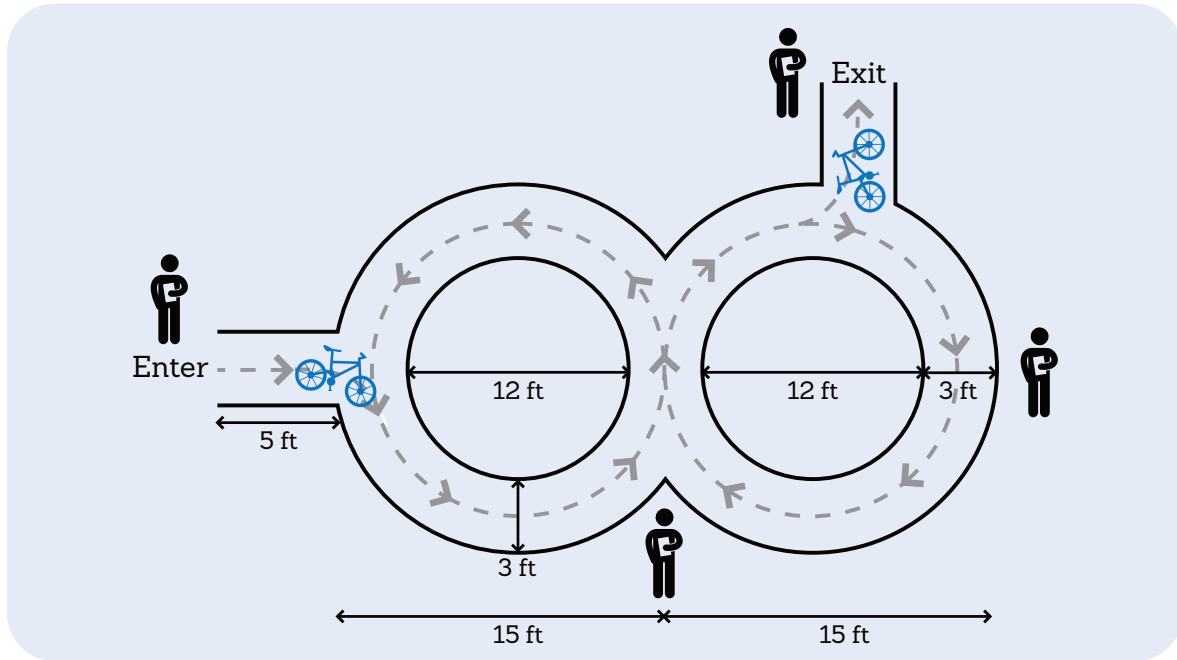


SKILL-BASED ACTIVITY

Figure 8 Ride

- Timeframe** **Adapted and Beginner:** 8-10 minutes
Intermediate: 8-10 minutes
Advanced: 8-10 minutes
- Objectives** At the conclusion of this activity the student will be able to:
1. Demonstrate exceptional or reliable performance of the Figure 8 Ride skill as measured by the Figure 8 rubric. (Psychomotor)
 2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
- National Standards** Standard 1
Standard 2
Standard 3
Standard 4
Standard 5
- Equipment**
- Helmets
 - Head barriers
 - Bicycles
 - Bicycle pump
 - Allen wrench
 - Red floor tape
 - Cones, domes, polyspots or chalk to mark riding course
- Teacher Overview** This activity is an advanced skill designed to strengthen the rider's ability to turn in different directions and yield while maintaining balance, speed, distance and control of the bicycle. Because multiple students will be riding the course together, students will practice communicating with other riders. This activity teaches the traffic skills of changing directions and changing lanes. When bicyclists ride in traffic, they will frequently have to change direction with little or no warning.
- Preparation**
1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
 2. Set up a Figure 8 Course, using cones, chalk or field paint, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students and where students will return when instructed.
 3. Mark the starting point with chalk, field paint or cones, allowing approximately 5 feet of riding before the bicyclist enters the Figure 8 at the opening shown in the diagram.

Diagram: Figure 8 Ride Course



4. Have two touching circles, each 15 feet in diameter; two inside circles 12 feet in diameter.
5. Refer to differentiating instruction for suggestions on set up for varying skill levels.
6. Practice the Figure 8 skill before demonstrating to students.

Directions



1. Introduce this activity using the following prompt:
Today, we will be working on more advanced bicycle handling skills in this activity. The Figure 8 Ride will help with balance while changing direction and yielding. The more comfortable you are handling your bicycle, the safer you will be and other bicyclists will be when around you. This is also a skill that will be important if you ride with traffic.
2. Complete the following steps #3-9 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #10.
3. Divide students into groups of two or three.
4. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
5. Instruct students to retrieve bicycles according to number assigned.
6. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly and to provide prompts if an item was missed. Switch roles.

7. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
8. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
9. Explain and demonstrate skills to students on the Figure 8 course reinforcing the following points. Riders should:
 - Follow the figure 8 pattern without placing a foot on the ground
 - Ride at a speed that allows for control and balance
 - Communicate with other riders that are on the Figure 8 course
10. Instruct students to begin riding the designated course with a Power Start.
11. Allow each student to complete the Figure 8 skill alone.
12. Refer to Differentiating Instruction for suggestions on set up for varying skill levels.



Assessment

1. Assess performance of the Figure 8 skill for each student using the following rubric.

PERFORMANCE RUBRIC: FIGURE 8 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student can maneuver bike around cones without touching them;</p> <p>Student has excellent balance when pedaling through course and never puts foot on the ground;</p> <p>Student can maneuver through course at both fast and slow speeds, under control.</p>	<p>Student can maneuver bike around cones without touching them;</p> <p>Student has good balance when pedaling through course and rarely puts foot on the ground;</p> <p>Student can maneuver through course at medium and slow speeds, under control.</p>	<p>Student can maneuver bike around cones, but touches them or occasionally runs over them;</p> <p>Student often puts foot on the ground;</p> <p>Student can maneuver through course at a faster speed, but not under control;</p> <p>Student knocks over several cones and/or is unable to maneuver around cones when riding slowly.</p>	<p>Student can maneuver bike around cones, but touches them or often runs over them;</p> <p>Student often puts foot on the ground or has to stop and restart; Student can maneuver through course at very slow speeds, but often runs over cones.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, & equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, & equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Students should ride the course alone.
- Students at this level may be asked to keep their feet on their pedals, trying not to touch the ground.

Intermediate

- Reduce the size of the Figure 8 course to create tighter turns.
- Allow up to 2 riders on the course at one time.

Advanced

- Continue to reduce the size of the Figure 8 course.
- Increase the number of riders on the course at one time.
- Students can be asked to go through the course more slowly, to increase the challenge.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.

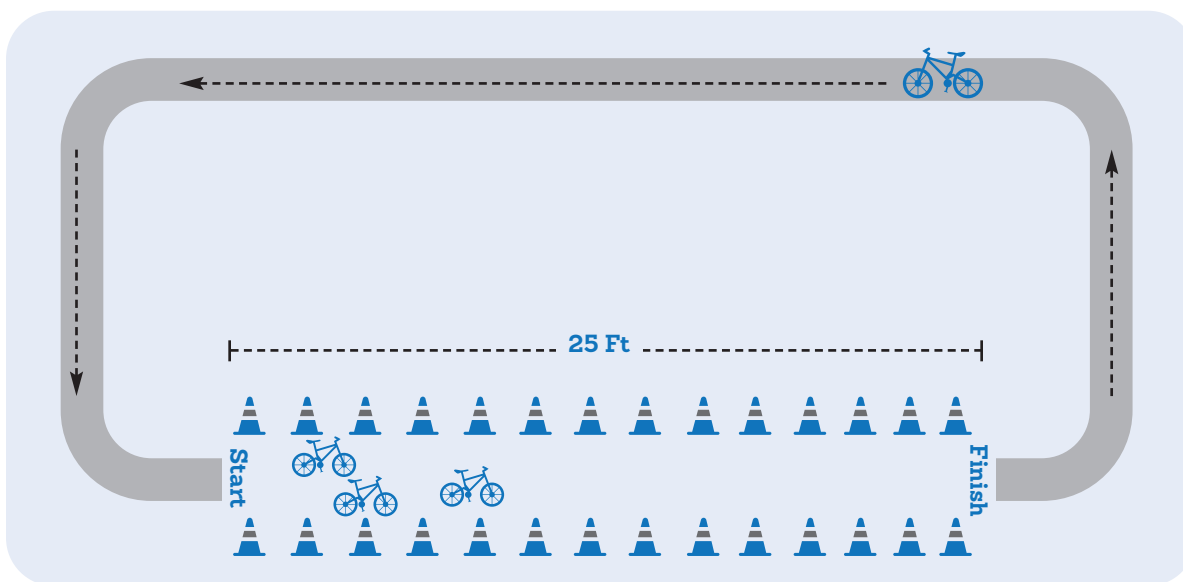


SKILL-BASED ACTIVITY

Snail Race

- Timeframe** **Adapted and Beginner:** N/A
Intermediate: 8-10 minutes
Advanced: 8-10 minutes
- Objectives** At the conclusion of this activity the student will be able to:
1. Demonstrate exceptional or reliable performance of the Snail Race as measured by the Snail Race rubric. (Psychomotor)
 2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
- National Standards** Standard 1
Standard 2
Standard 3
Standard 4
Standard 5
- Equipment**
- Helmets
 - Head barriers
 - Bicycles
 - Bicycle pump
 - Allen wrench
 - Red floor tape
 - Cones, domes, polypspots or chalk to mark riding course
- Teacher Overview** This activity is an advanced activity designed to strengthen the key skill of balance and control of one's bicycle and the ability to ride at a slow speed. Riders start the race together, and the last one across the finish line wins—no weaving or touching the ground is allowed. The purpose of this race is to reward low speed that requires balance skills. This activity is not recommended for beginner or adapted riders.
- Preparation**
1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
 2. Set up a "chute" using cones, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students, and where students will return when instructed.
 3. Use cones, domes, polypspots or chalk to mark the start and finish of the race.

Diagram: Snail Race Course



4. The chute should be wide enough to safely accommodate multiple riders and approximately 25ft long.
5. Practice the Snail Race before demonstrating to students.

Directions

1. Introduce this activity using the following prompt:

You have learned that riding slowly can be challenging and requires a great deal of balance and control of the bicycle. Today, we will be putting those skills to the test with the Snail Race. The goal in the Snail Race is to get to the finish line last, without pedaling and without putting your feet on the ground.



2. Complete the following steps #3-9 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #10.
3. Divide students into groups of two or three.
4. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
5. Instruct students to retrieve bicycles according to number assigned.
6. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly, and to provide prompts if an item was missed. Switch roles
7. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
8. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.

9. Explain and demonstrate how to perform the Snail Race to students in the teaching station reinforcing the following points. Riders should:
 - Start with a Power Start, but then no other pedaling
 - Move forward by turning steering left and right with minor movements
 - Not stop during the race
 - Not put a foot on the ground during the race
 - Continue moving forward (not zigzag or side to side)
10. Line students up at the starting line.
11. Explain to students that the challenge is to be the last person to the finish line.
12. Start the race.
13. Identify the winner as the student who crosses the finish line last without putting a foot down.

Assessment

1. Assess performance of the Snail Race for each student using the following rubric

PERFORMANCE RUBRIC: SNAIL RACE 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student has excellent balance when moving and never puts foot on the ground;</p> <p>Student can move forward at very slow speeds, without zigzagging or running into other riders;</p> <p>Student can perform a track stand for up to a few seconds.</p>	<p>Student has good balance when moving and rarely puts foot on the ground;</p> <p>Student can move forward at slow speeds, without zigzagging or running into other riders.</p>	<p>Student has poor balance when moving and sometimes puts foot on the ground;</p> <p>Student can only move forward at medium speeds;</p> <p>Student often zigzags and/or runs into other riders.</p>	<p>Student has poor balance and can only move forward at a medium speed;</p> <p>Student cannot ride in a straight line and often veers from side to side;</p> <p>Student constantly has one foot on the ground.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, & equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, & equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course and demonstrate the skill components in the “chute.”
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Not Recommended

Intermediate

- Allowed to put their foot down for a brief moment if necessary.

Advanced

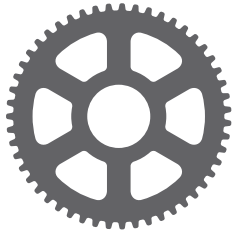
- Start without using the Power Start
- Perform a Track Stand at some point during the race.



Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.



SKILL-BASED ACTIVITY

Gearing

Timeframe

Beginner: 30 minutes
Intermediate: 20 minutes
Advanced: 20 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance of gearing as measured by the gearing rubric. (Psychomotor)
2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

Equipment

- Helmets
- Head barriers
- Bicycles
- Bicycle Trainers (optional but recommended)
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polyspots or chalk to mark riding course

Teacher Overview

This activity introduces the concept of using bicycle gears to achieve effective riding. Properly using gears allows the rider to exert nearly the same amount of pedaling effort whether riding uphill, downhill or on flat land. Bicycle trainers are recommended for this activity. Beginner and adapted riders should only complete activity steps #12-16 if bicycle trainers are available.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up a "chute" using cones, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students, and where students will return when instructed.
3. Set up a few bicycles on stationary bicycle trainers.
4. Identify what type of shifter the bicycles have and practice using the shifter before demonstrating to students.

5. If a full class set of bicycle trainers is available, set them up in the chute. Students will attach bicycles after completing the ABC Quick Check.
6. If a full set of bicycle trainers is not available, set up available trainers and extra bicycles in the chute. Groups of students will rotate through the trainers, while other students continue riding the designated course.
7. If no trainers are available, students will shift into the identified gear when entering the chute for assessment.

Directions

1. Introduce this activity using the following prompt:

Today, we are going to talk about bicycle gears. Properly using the gears on a bicycle can result in a much more enjoyable and effective ride. Using the correct gear will make it easier to get to the top of the hill or help you go faster. Gears allow you to exert nearly the same amount of pedaling effort whether riding uphill, downhill or on flat land.

2. Use the following sample questions to prompt students' thinking about the content in this activity.

Q: Why are there gears on a bicycle? What do they do?

A: Bicycles have gears to allow your cadence, pedal speed, to stay relatively steady and at about the same level of effort, regardless of if you are climbing a hill or going down it. Your speed may change in different gears, but the effort pushing on the pedals should feel about the same. The gearing makes adjustments that allow you to either climb easier or go faster than you would if you had just one gear.

Q: How do you know if you are in the correct gear?

A: The 'correct gear' will vary for each person. Some people are comfortable pedaling harder in a high gear, while others prefer using a lower gear and spinning at a higher cadence. You will know that you are in the correct gear if you can ride efficiently and comfortably regardless of if you are going uphill, downhill or on flat land.

Q: What is meant by bicycling cadence?

A: Cadence is the number of times during one minute that a pedal stroke is completed. It is the rate of pedaling measured in revolutions per minute.

Q: Why does cadence matter?


A: Cadence can influence performance. Most bicyclists have a preferred cadence at which they are most efficient. For most recreational cyclists, a preferred cadence is around 50-60 RPM whereas competitive cyclists may have a preferred cadence that is around 80-100 RPM. A higher cadence improves your aerobic capacity, the body's ability to use oxygen and fat as fuel and results in a good cardiovascular workout.

Q: How does gearing make a difference in cadence?

A: Gearing allows the rider to change between a lower and higher cadence.



3. Complete the following steps #4-10 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #11.
4. Divide students into groups of two or three.
5. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
6. Instruct students to retrieve bicycles according to number assigned.
7. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly, and to provide prompts if an item was missed. Switch roles.
8. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
9. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.


 Bicycle trainers are highly recommended for the following steps.

10. Explain and demonstrate skills to students in the teaching station reinforcing the following points. Riders should:
 - Use the shifters to change gears. The shifter will activate the derailleur to move the chain to different gears. There are many different types of shifters.
 - Move through the gears one at a time; do not jump through multiple gears at once. Once familiar with how each gear feels, students can move through multiple gears when necessary (e.g., steep hill).
 - Use the left shifter to control the front chain rings. The large front chain ring is for speed. It is hard to pedal, but results in higher speeds and a lower cadence. The smallest front chain ring is for power, NOT speed. It is easier to pedal and you will have a higher cadence, but you do not go very fast. This gear is for going up hills. The middle front chain ring is a compromise, providing medium power and speed.
 - Use the right shifter to control the rear cassette. The size of the chain rings on the rear cassette is just the opposite of the size of the gears on the front chain ring. The number of chain rings on the cassette can vary greatly. The larger sized chain rings are the easiest to the pedal. The smaller chain rings are for speed; the pedaling effort will be harder.
 - Shift through the full range of gears to feel how cadence changes. Identify the gear ratio that they should primarily remain in for class riding. Students should stay in the middle front chain ring while riding in class. Students should find a comfortable gear in the cassette to remain in for class riding. Unless riding on terrain with hills, after this activity, students should not need to change gears.




If a full class set of bicycle trainers is available (follow #12-14):

- 11.** Instruct students to attach the bicycle to the bicycle trainer.
- 12.** Instruct students to experiment with gears to feel the impact on cadence.
- 13.** Instruct students to identify the gear ratio that provides a comfortable cadence.




If a partial set of bicycle trainers is available (follow #15-19):

- 14.** Divide students into groups based on the number of trainers available.
- 15.** Instruct students to experiment with gears to feel the impact on cadence.
- 16.** Instruct students to identify the gear ratio that provides a comfortable cadence.
- 17.** Instruct other students to continue riding the designated course.
- 18.** Rotate groups of students through the trainers.



If bicycle trainers are not available (follow #20-24):

- 19.** Ensure that all bicycles are in the middle chain ring. Students should be instructed to only change gears with the cassette. So, they should not use the left shifter.
- 20.** Instruct students to begin riding the designated course with a Power Start.
- 21.** Instruct students to index through all of the gears of the cassette as they ride the designated course; using the right shifter until a comfortable gear is found.
- 22.** Instruct students to continue riding the course in this gear. Blow the whistle and instruct students to index either up or down a set number of gears to mimic either riding uphill or downhill.
- 23.** Instruct students to stay at this level until the whistle is blown. Students will then return to their comfortable gear ratio and desired pedaling cadence.



Bicycles can have 2-3 front chainrings. Most mountain bikes will have three, whereas most road bikes will have only two.

A rule of thumb is that the closer the chain is to the frame of the bike, the easier the pedaling effort will be. As the chain moves away from the frame of the bike, it becomes harder to pedal.



Assessments

1. Assess performance of gearing for each student using the following rubric.

PERFORMANCE RUBRIC: GEARING 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student understands and can explain how the gears on the bike are set up;</p> <p>Student can consistently shift into correct gear, according to terrain and their fitness level, while riding;</p> <p>Student can shift gears without causing the chain to fall off or to get locked up.</p>	<p>Student understands, but cannot explain, how the gears on the bike are set up;</p> <p>Student can shift into correct gear, according to terrain and their fitness level, most of the time, and do so while riding;</p> <p>Student can shift gears without causing the chain to fall off or to get locked up.</p>	<p>Student does not understand and cannot explain how the gears on the bike are set up;</p> <p>Student is often in the wrong gear, according to terrain and their fitness level, and tends to shift while stationary;</p> <p>Student cannot shift gears without occasionally causing the chain to fall off or to get locked up.</p>	<p>Student does not understand how the gears are set up on the bike;</p> <p>Student is always in the incorrect gear and needs to be told when to shift; Student is unable to shift while moving;</p> <p>Student often causes the chain to fall off or lock up because of poor shifting.</p>



If using bicycle trainers, a travel video may be set up to create a stimulating environment that the students are 'riding' in. Students should be instructed to change gears in the cassette to reflect the type of terrain on the video.

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course and demonstrate the skill components in the “chute.”
4. Instruct students to keep at least three-bikes-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Complete activity steps #12-16 only if bicycle trainers are available.

Intermediate and Advanced

- Give students the opportunity to ride on different types of terrain (uphill & downhill) to practice gearing in real life situations.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go: when the person in front of them gets to the marker, the next student may start riding.
4. Explain gearing in a simple way because it can be very confusing. Students should get opportunities to practice gearing on a trainer, a flat surface and then an uneven surface. It is important that students are never in extreme gears (i.e., the smallest front chain ring and the smallest gear on the cassette; the largest front chain ring and the largest gear on the cassette).
5. Change gears one level at a time while pedaling in a forward direction. This will help ensure that the fleet of bicycles will remain in good working condition.



SKILL-BASED ACTIVITY

Water Bottle Pickup

Timeframe

Adapted and Beginner: N/A
Intermediate: N/A
Advanced: 10-15 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance of the Water Bottle Pickup as measured by the Water Bottle Pickup rubric. (Psychomotor)
2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards

Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

Equipment

- Helmets
- Head barriers
- Bicycles
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polypots or chalk to mark riding course
- Cones for Water Bottle Pickup activity
- Water bottles or other equipment students can pick up off a cone (bean bags, yarn balls, tennis balls, etc.)

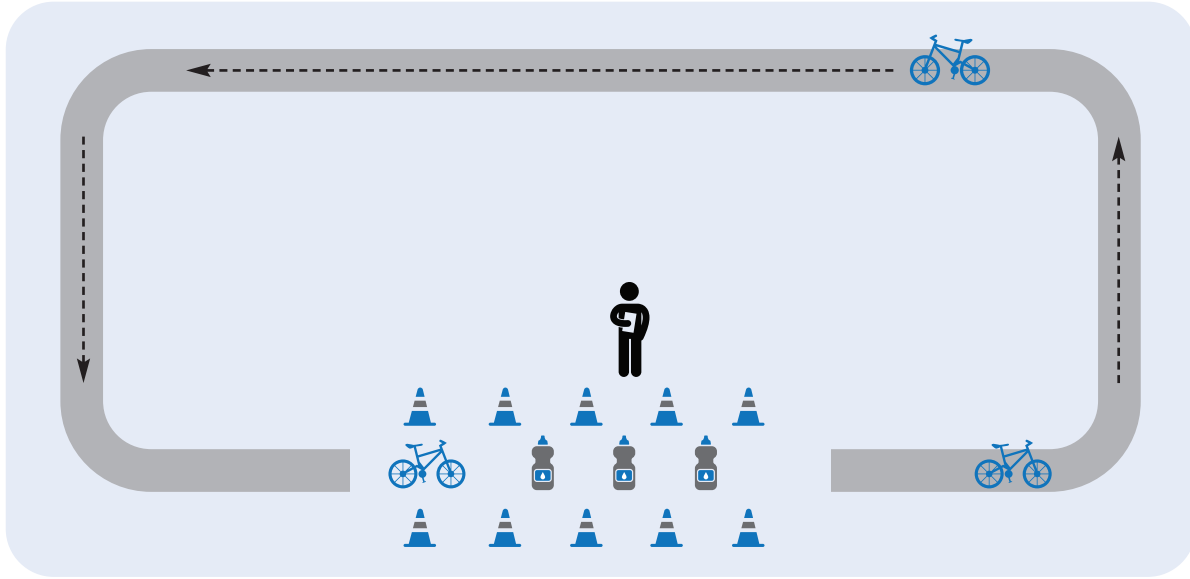
Teacher Overview

This activity is an advanced activity designed to strengthen the key skills of balance and control of the bicycle and the ability to ride at a slow speed. Students will have to lean down to pick up an object while riding. This activity is not recommended for beginner, adapted or intermediate riders.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up a "chute" using cones, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students, and where students will return when instructed.
3. Set up multiple cones of various heights, with a water bottle or another object atop the cone. In a line within the chute.
4. Practice the Water Bottle Pickup before demonstrating to students.

Diagram: Water Bottle Pick-Up Course



Directions

1. Introduce this activity using the following prompt:

Even advanced level riders should continue to strengthen the key skills of balance and control. The more comfortable you are handling your bicycle, the safer you will be and other cyclists will be when around you. One activity that helps you advance the level of control and balance is the water bottle pickup.



2. Complete the following steps #3-9 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #10.
3. Divide students into groups of two or three.
4. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
5. Instruct students to retrieve bicycles according to number assigned.
6. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly and to provide prompts if an item was missed. Switch roles.
7. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
8. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.

9. Explain and demonstrate how to perform the Water Bottle Pickup to students in the teaching station reinforcing the following points.
Riders should:
 - Ride at a moderate pace.
 - Maintain one hand on the handlebar while bending down to pick up the object.
 - Attempt to pick up only one object at a time.
 - Continue riding and not stop to pickup the object.
10. Alter the activity by having students return the object back to the cone while riding past.

Assessments

1. Assess the performance of Water Bottle Pickup for each student using the following rubric.

PERFORMANCE RUBRIC: WATER BOTTLE PICKUP 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is able to pick up a water bottle at a prescribed height consistently;</p> <p>Student maintains balance and control while picking up and/or putting back the water bottle;</p> <p>Student is able to proceed through the course without putting foot on the ground.</p>	<p>Student is often able to pick up a water bottle at a prescribed height;</p> <p>Student maintains balance and control while picking up and/or putting back the water bottle;</p> <p>Student is able to proceed through the course, only putting foot on the ground occasionally.</p>	<p>Student is rarely able to pick up a water bottle at a prescribed height;</p> <p>Student does not maintain balance and control while picking up and/or putting back the water bottle;</p> <p>Student has to stop during course and restart.</p>	<p>Student is unable to pick up a water bottle at a prescribed height, even at a height level with them;</p> <p>Student does not maintain balance and control while picking up and/or putting back the water bottle;</p> <p>Student has to stop during course and restart.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, & equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times</p>	<p>Student may struggle with being respectful toward classmates, teacher, & equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course and demonstrate the skill components in the “chute.”
4. Instruct students to keep at least three-bikes-lengths between each rider.

Differentiating Instruction

Adapted, Beginner and Intermediate

- Not recommended

Advanced

- Water bottles can be placed on smaller cones, standing or lying on the ground, to increase the challenge and match the skill level of each student.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.



SKILL-BASED ACTIVITY

Bunny Hop

Timeframe

Adapted and Beginner: N/A
Intermediate: N/A
Advanced: 10 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance of the Bunny Hop as measured by the Bunny Hop rubric. (Psychomotor)
2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

Equipment

- Helmets
- Head barriers
- Bicycles
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polypots or chalk to mark riding course
- Chalk, jump ropes and very small sticks for Bunny Hop activity

Teacher Overview

This activity is an advanced activity designed to strengthen the key skills of control of one's bicycle and hazard-avoidance. Students will have to 'hop' the front tire over an object while riding. This activity is not recommended for beginner, adapted or intermediate riders.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up a "chute" using cones, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students, and where students will return when instructed.
3. Use field paint or chalk to mark a line across the chute that students will practice hopping over.
4. As students progress, increase the size of the object ex. jump ropes, small diameter sticks/branches, etc.
5. Practice the Bunny Hop before demonstrating to students.

Directions

1. Introduce this activity using the following prompt:

Another more advanced bicycling skill is to be able to 'hop' over small objects. This would be useful when you really can't go around an object because of limited time (you didn't see it ahead of you until the last moment) or because of limited space (you can't go out in traffic and the object is small enough to hop over).

2. Use the following sample questions to prompt students' thinking about the content in this activity.

Q: What might you encounter that you might want to hop over?

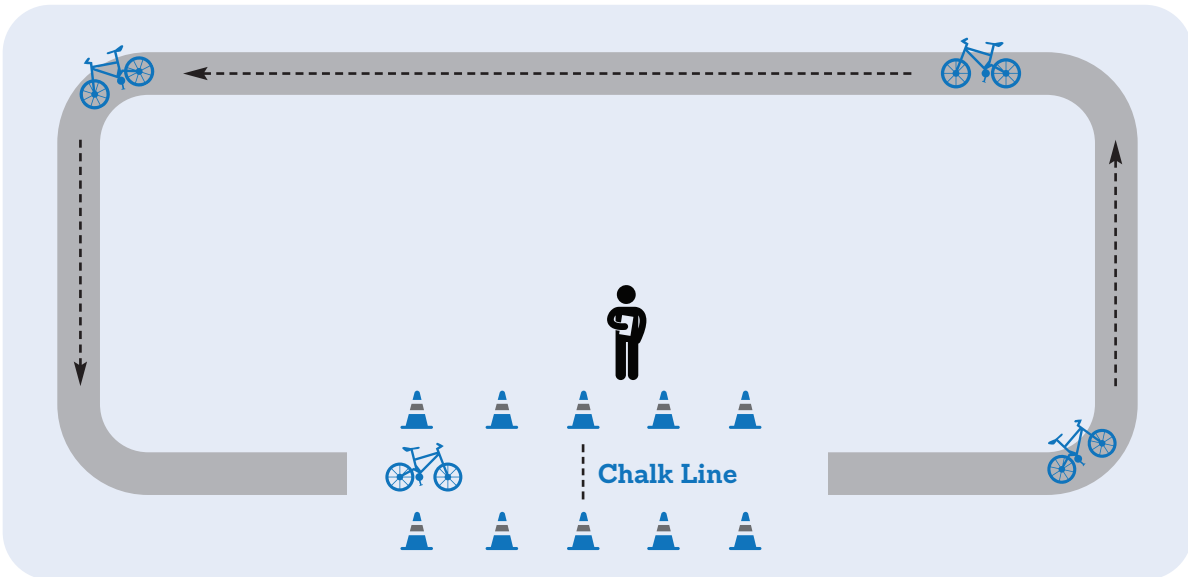
A: Any of the following are acceptable:

- Glass
- Pothole
- Stick
- Other responses may be accepted



3. Complete the following steps #4-10 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #11.
4. Divide students into groups of two or three.
5. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
6. Instruct students to retrieve bicycles according to number assigned.
7. Instruct one student to complete the ABC Quick Check while the other student observes to ensure that the check was completed properly, and to provide prompts if an item was missed.
8. Switch roles so the other partner(s) completes the ABC Quick Check.
9. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
10. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
11. Explain and demonstrate how to perform the Bunny Hop to students in the teaching station reinforcing the following points. Riders should:
 - Be in the ready position as they approach the object.
 - Crouch and pull up on the handlebars just prior to going over the object so the front tire goes over the object.
 - Maintain balance and control, as they clear the front tire and as the back tire rolls over the object.

Diagram: Bunny Hop



Assessments

1. Assess performance of Bunny Hop for each student using the following rubric.

PERFORMANCE RUBRIC: BUNNY HOP

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student begins Bunny Hop from a Ready Position;</p> <p>Student is consistently able to clear the front tire of the object because he crouches and then pulls up on the handlebars;</p> <p>Student is always able to maintain balance and control as he bunny hops over an object.</p>	<p>Student begins Bunny Hop from a Ready Position;</p> <p>Student is often able to clear the front tire of the object because he crouches and then pulls up on the handlebars;</p> <p>Student is often able to maintain balance and control as he bunny hops over an object.</p>	<p>Student does not begin Bunny Hop from a Ready Position;</p> <p>Student is rarely able to clear the front tire of the object because he often does not crouch and/or pull up on the handlebars;</p> <p>Student is often unable to maintain balance and control as he bunny hops over an object, and needs to put a foot down.</p>	<p>Student does not begin Bunny Hop from a Ready Position;</p> <p>Student is unable to clear the front tire of the object because he does not crouch and/or then pull up on the handlebars;</p> <p>Student is not able to maintain balance and control as he bunny hops over an object.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course and demonstrate the skill components in the “chute.”
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted, Beginner and Intermediate

- Not recommended

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go: when the person in front of them gets to the marker, the next student may start riding.



SKILL-BASED ACTIVITY

Advanced Cycling Skill Stations

Timeframe

Adapted and Beginner: N/A

Intermediate and Advanced: 5-7 minutes/stations

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance of the Figure 8 Ride skill as measured by the Figure 8 rubric. (Psychomotor)
2. Demonstrate exceptional or reliable performance of the Snail Race as measured by the Snail Race rubric. (Psychomotor)
3. Demonstrate exceptional or reliable performance of gearing as measured by the gearing rubric. (Psychomotor)
4. Demonstrate exceptional or reliable performance of the Water Bottle Pickup as measured by the gearing rubric. (Psychomotor)
5. Demonstrate exceptional or reliable performance of the Bunny Hop as measured by the Bunny Hop rubric. (Psychomotor)
6. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 3
Standard 5
Standard 6

Equipment

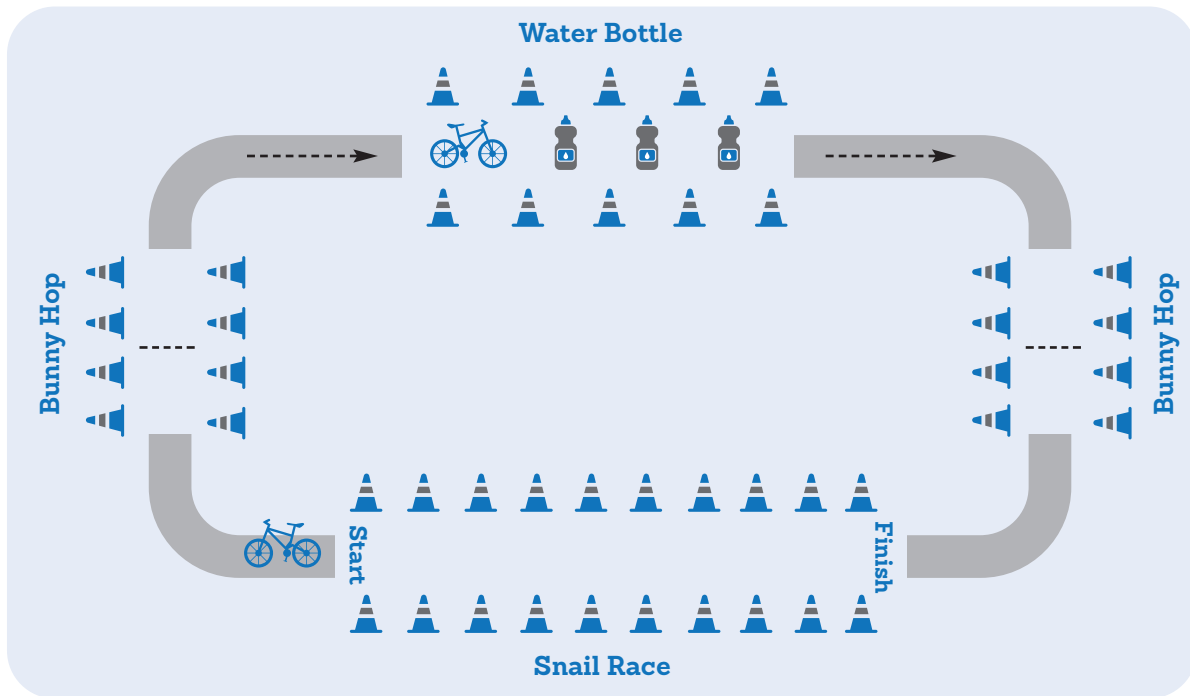
- Helmets
- Head barriers
- Bicycles
- Bicycle Trainers (optional but recommended)
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polyspots or chalk to mark riding course
- Pencils
- Student journals
- Cones for Water Bottle Pickup activity
- Water bottles or other equipment students can pick up off a cone (bean bags, yarn balls, tennis balls, etc.)
- Chalk, jump ropes and very small sticks for Bunny Hop activity

Teacher Overview This activity prompts students to practice the advanced skills from Unit 4, skills from Units 2 and 3 can also be included.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up skill stations along the course to enable students to practice any of the appropriate skills from Unit 4.

Diagram: Advanced Cycling Skills Course



Directions

1. Introduce this activity using the following prompt:

Practicing all of the skills that you have learned is important, even for advanced level riders. We will be working on the skills from this unit as we ride around to each individual station. The more comfortable you are handling your bike, the safer you will be and other cyclists will be when around you.



2. Complete the following steps #3-9 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #10.
3. Divide students into groups of two or three.
4. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
5. Instruct students to retrieve bicycles according to number assigned.
6. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly and to provide prompts if an item was missed. Switch roles.

7. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
8. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
9. Identify the skills that are set up around the course reinforcing the following points. Riders should:
 - Perform the skill in the chute one at a time as they encounter it around the course.
 - Ensure everyone in the group completes the skill.
 - Provide feedback to peers.
 - Move to the next station when the whistle blows.
10. Divide students in pairs or groups of 3-4 to progress around the course.

Assessment

1. Assess the performance of the Figure 8 skill for each student using the following rubric.

PERFORMANCE RUBRIC: FIGURE 8 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student can maneuver bike around cones without touching them;</p> <p>Student has excellent balance when pedaling through course and never puts foot on the ground;</p> <p>Student can maneuver through course at both fast and slow speeds, under control.</p>	<p>Student can maneuver bike around cones without touching them;</p> <p>Student has good balance when pedaling through course and rarely puts foot on the ground;</p> <p>Student can maneuver through course at medium and slow speeds, under control.</p>	<p>Student can maneuver bike around cones, but touches them or occasionally runs over them;</p> <p>Student often puts foot on the ground;</p> <p>Student can maneuver through course at a faster speed, but not under control;</p> <p>Student knocks over several cones and/or is unable to maneuver around cones when riding slowly.</p>	<p>Student can maneuver bike around cones, but touches them or often runs over them;</p> <p>Student often puts foot on the ground or has to stop and restart; Student can maneuver through course at very slow speeds, but often runs over cones.</p>

2. Assess the performance of Snail Race for each student using the following rubric.

PERFORMANCE RUBRIC: SNAIL RACE 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student has excellent balance when moving and never puts foot on the ground;</p> <p>Student can move forward at very slow speeds, without zigzagging or running into other riders;</p> <p>Student can perform a track stand for up to a few seconds.</p>	<p>Student has good balance when moving and rarely puts foot on the ground;</p> <p>Student can move forward at slow speeds, without zigzagging or running into other riders.</p>	<p>Student has poor balance when moving and sometimes puts foot on the ground;</p> <p>Student can only move forward at medium speeds;</p> <p>Student often zigzags and/or runs into other riders.</p>	<p>Student has poor balance and can only move forward at a medium speed;</p> <p>Student cannot ride in a straight line and often veers from side to side;</p> <p>Student constantly has one foot on the ground.</p>

3. Assess the performance of gearing for each student using the following rubric.

PERFORMANCE RUBRIC: GEARING 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student understands and can explain how the gears on the bike are set up;</p> <p>Student can consistently shift into correct gear, according to terrain and their fitness level, while riding;</p> <p>Student can shift gears without causing the chain to fall off or to get locked up.</p>	<p>Student understands, but cannot explain, how the gears on the bike are set up;</p> <p>Student can shift into correct gear, according to terrain and their fitness level, most of the time, and do so while riding;</p> <p>Student can shift gears without causing the chain to fall off or to get locked up.</p>	<p>Student does not understand and cannot explain how the gears on the bike are set up;</p> <p>Student is often in the wrong gear, according to terrain and their fitness level, and tends to shift while stationary;</p> <p>Student cannot shift gears without occasionally causing the chain to fall off or to get locked up.</p>	<p>Student does not understand how the gears are set up on the bike;</p> <p>Student is always in the incorrect gear and needs to be told when to shift;</p> <p>Student is unable to shift while moving; Student often causes the chain to fall off or lock up because of poor shifting.</p>

4. Assess the performance of Water Bottle Pickup for each student using the following rubric.

PERFORMANCE RUBRIC: WATER BOTTLE PICKUP 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is able to pick up a water bottle at a prescribed height consistently;</p> <p>Student maintains balance and control while picking up and/or putting back the water bottle;</p> <p>Student is able to proceed through the course without putting foot on the ground.</p>	<p>Student is often able to pick up a water bottle at a prescribed height;</p> <p>Student maintains balance and control while picking up and/or putting back the water bottle;</p> <p>Student is able to proceed through the course, only putting foot on the ground occasionally.</p>	<p>Student is rarely able to pick up a water bottle at a prescribed height;</p> <p>Student does not maintain balance and control while picking up and/or putting back the water bottle;</p> <p>Student has to stop during course and restart.</p>	<p>Students is unable to pick up a water bottle at a prescribed height, even at a height level with them;</p> <p>Student does not maintain balance and control while picking up and/or putting back the water bottle;</p> <p>Student has to stop during course and restart.</p>

5. Assess the performance of Bunny Hop for each student using the following rubric.

PERFORMANCE RUBRIC: BUNNY HOP 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student begins Bunny Hop from a Ready Position;</p> <p>Student is consistently able to clear the front tire of the object because he crouches and then pulls up on the handlebars;</p> <p>Student is always able to maintain balance and control as he bunny hops over an object</p>	<p>Student begins Bunny Hop from a Ready Position;</p> <p>Student is often able to clear the front tire of the object because he crouches and then pulls up on the handlebars;</p> <p>Student is often able to maintain balance and control as he bunny hops over an object.</p>	<p>Student does not begin Bunny Hop from a Ready Position;</p> <p>Student is rarely able to clear the front tire of the object because he often does not crouch and/or pull up on the handlebars;</p> <p>Student is often unable to maintain balance and control as he bunny hops over an object, and needs to put a foot down.</p>	<p>Student does not begin Bunny Hop from a Ready Position;</p> <p>Student is unable to clear the front tire of the object because he does not crouch and/or then pull up on the handlebars;</p> <p>Student is not able to maintain balance and control as he bunny hops over an object.</p>

6. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course and demonstrate the skill components in the “chute.”
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

- Varies for each skill

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.



CLOSING ACTIVITY

Journal Writing

Timeframe

Beginner: 10–15 minutes
Intermediate: 10 minutes
Advanced: 10 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. List and describe key concepts from Unit 4 that illustrate a clear understanding of the need to have advanced bicycle handling skills, as measured by providing responses to questions in journals. (Cognitive)
2. Describe how they feel about their ability to ride safely and their level of enjoyment of bicycling, as measured by providing responses to questions in journals. (Affective)

National Standards Standard 2
Standard 5

Equipment • Journals or portfolios for each student

Teacher Overview This activity prompts students to think about what they have learned during the fourth unit by asking questions about basic bicycling skills and providing written responses in journals.

- Preparation**
1. Determine method for distributing, collecting and storing portfolios or journals before beginning this activity.
 2. Modify the questions to reflect the actual activities completed by students.

Directions

1. Introduce this activity using the following prompt:
We've now completed Unit 4 – "Advanced Cycling Skills." All of the skills learned in this unit will help you be safer and more skilled bicyclists when you are out riding. All of the skills in Unit 4 are important to practice, even for advanced level riders. While you may never be required to perform a Snail Race when out on a ride, the skills practiced – balance and control – help make you a better bicyclist.
2. Provide portfolios or journals for students to write in.
3. Choose a location where students can sit comfortably and complete the assignment if completing the journal writing activity in class.
4. Use the following sample questions to prompt students' thinking about the content presented in this unit.

Q. Name the two primary skills you used when performing the Slalom Ride, Figure 8 and Snail Race.

A. Balance and control of the bicycle

Q. Please explain why/when you might need to shift gears when on a ride.

A. When the terrain changes it may be necessary to change gears to continue at a particular cadence.

Q. What gear combination is best to use when climbing a hill?

A. Small chain ring on the front; largest cassette on the back.

Q. Please explain three critical elements of the Bunny Hop.

A. All responses must be present:

- Begin in the ready position.
- Crouch just before the obstacle.
- Pull up on the handlebars

Assessment

1. Be thoughtful about assessing journal writing, particularly when asking open ended “opinion-type” questions. Not all students may enjoy bicycling and should be allowed to voice their opinions. To encourage honest answers, refrain from grading thoughts and opinions. However, this should not be an excuse for not learning the material.
2. Consider assessing writing skills and integrate literacy (spelling, use of correct grammar and complete sentences, etc.) in journal writing. Some teachers may want to specify length of answers for specific questions (e.g., answer must be at least two sentences).

Safety

None

Differentiating Instruction

All levels

- Choose questions that are appropriate for the age and ability level of students.
- Some students may need to share their answers verbally with a teacher if they have difficulty writing.
- Some students may need the teacher or an aide to read the questions.

Best Practices

1. Complete this activity in classroom settings, health classes or science classes if cross-curricular units are planned or to maximize riding time in physical education class.
2. Assign the journal writing for Unit 4 as homework to maximize riding time in physical education class.



UNIT 5

Rules of the Road

OBJECTIVES

At the conclusion of this unit the student will be able to:

1. Describe key concept of safe riding, as measured by completion of the *Rules of the Road worksheet*. (Cognitive)
2. Describe key concept of safe riding, as measured by participation in peer discussion about Rules of the Road. (Cognitive)
3. Demonstrate exceptional or reliable performance of Rules of the Road during the Chaos Corners activity as measured by the Rules of the Road rubric. (Psychomotor)
4. Demonstrate exceptional or reliable lane positioning as measured by the lane-positioning rubric. (Psychomotor)
5. Demonstrate exceptional or reliable bicycle etiquette associated with group rides as measured by the bicycle etiquette rubric. (Psychomotor)
6. Demonstrate exceptional or reliable bicycle etiquette associated with bicycle paths/trails as measured by the bicycle paths/trails rubric. (Psychomotor)
7. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
8. List and describe key concepts from Unit 5 that illustrate a clear understanding of the need to know the rules of the road and bicycling etiquette, as measured by providing responses to questions in journals. (Cognitive)
9. Describe how they feel about their ability to ride safely on the road and/or on a multi-use path and their level of enjoyment of bicycling, as measured by providing responses to questions in journals. (Affective)
10. Describe key concepts of bicycling etiquette, as measured by completion of a bicycling etiquette poster. (Cognitive)

The skill-based activities in Units 1-3 create the foundation for safe bicycling. Regardless of students' skill level or previous bicycling knowledge, the skill-based activities in Units 1-3 should be completed before completing the activities in Unit 5.

NATIONAL STANDARDS FOR K-12 PHYSICAL EDUCATION

Standard 1

The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

Standard 2

The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3

The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4

The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5

The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

KEY VOCABULARY/TERMS

Bicycling Etiquette: General rules of conduct by bicyclists that prevent potential injury.

Intersection: A road junction where two or more roads (driveways, sidewalks) either meet or cross. It may or may not be controlled by traffic lights/signs. Most bicycle crashes occur at intersections.

Lane Position/Roadway Position: The physical position of the bicyclists on the roadway or in the lane. Most state laws indicate that a bicyclist should ride as far to the right as is safe, or practicable. A common error among cyclists is to ride too far to the right where they may hit a curb or don't have enough room to maneuver around a hazard. A bicyclist positioned too far to the right is less visible to motorists.

Multi-use Paths: Paths for varying users, i.e. bicyclists, pedestrians, joggers, in-line skaters and those on horseback.

Rules-of-the-Road: Traffic laws, regulations and common-sense riding behavior designed to increase the safety of bicyclists riding in the roadway. Some examples include: riding in the same direction as traffic, obeying all traffic signs and signals.

Verbal and Nonverbal Communication: Types of communication by bicyclists to other bicyclists, pedestrians and motor vehicle drivers to share information. Some examples include: signaling stopping with a hand signal; saying 'passing on left' to a pedestrian when passing; pointing to a pothole to warn another bicyclist about a hazard.

Yielding: Slowing down or stopping to let another person go first. There are general rules about when you must yield the right-of-way. Some examples include: at an intersection without signs or signals, you should yield the right-of-way to any vehicle approaching from the right; at an intersection with stop signs at all corners, you must yield the right-of-way to the first vehicle to come to a complete stop. If two vehicles stop at the same time, the vehicle on the left should yield to the vehicle on the right.

ACTIVITIES

Each unit should include three types of activities: introduction, skill-based with assessments and cool-down/closure. In some cases, more than one activity option is offered for the introduction and closure; choose the appropriate activities that fit into your allotted class time when developing your lesson plans. If class time is too short to allow for all three types of activities, focus your lesson on the skill-based activities.

Introduction: The following activity can be used to introduce this unit of learning.

- Walk & Share

Skill-Based with Assessments: Each skill-based activity is associated with an assessment to measure student knowledge and application of the identified skill. Depending on the amount of class time available and the skill level of students, more than one of the following skill-based activities may be completed during one class.

- Rules of the Road
- Lane Positioning
- Group Riding Etiquette
- Bike Path/Trail Etiquette

Closure: The following activities can be used to conclude this unit of learning. If desired, these activities can be assigned as homework. Choose which best fits the needs of your students and class.

- Journal Writing
- Bicycling Etiquette Poster

EQUIPMENT NEEDED

- Helmets
- Head barriers
- Bicycles
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polypots or chalk to mark riding course
- Pencils
- Rules of the Road worksheet
- Student journals
- Pin the Bicyclist on the Road worksheets
- Bike Tips for Youth http://www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf
- Cyclist's Eye View video (optional)
- Rules of the Road Crossword Puzzle (optional)
- Poster board, art paper, paper rolls or butcher paper
- Markers

CROSS-CURRICULAR ACTIVITIES

Language Arts

- Etiquette poster
- Journal writing



INTRODUCTION ACTIVITY

Walk & Share / Rules of the Road

Timeframe	Beginner: 5-7 minutes Intermediate: 5-7 minutes Advanced: 5-7 minutes
Objective	At the conclusion of this activity, the student will be able to: <ol style="list-style-type: none">1. Describe key concept of safe riding, as measured by completion of the <i>Rules of the Road</i> worksheet. (Cognitive)
National Standards	Standard 2 Standard 3
Equipment	<ul style="list-style-type: none">• <i>Rules of the Road</i> worksheet• Pencils
Teacher Overview	This activity is designed to prompt students to begin thinking about Rules of the Road for bicyclists. Walking while discussing the questions will initiate peer discussion about safe bicycling behaviors and keep students moving.
Preparation	Make appropriate number of copies of the <i>Rules of the Road</i> worksheet.
Directions	<ol style="list-style-type: none">1. Introduce this activity using the following prompt: <i>Today, we are going to begin to talk about how to be safe while riding on the road with traffic.</i>2. Divide students into groups of two or three.3. Ask students to walk the perimeter of the gym while answering the questions on the <i>Rules of the Road</i> worksheet. Instruct students they may need to stop to write a quick answer, but should continue moving as much as possible or have them write the answers when the walking is completed.4. Instruct students to stop when the whistle blows and be prepared to share something they discussed with their partner(s).
Assessment	Successful completion of the <i>Rules of the Road</i> worksheet
Safety	<ol style="list-style-type: none">1. Do not let students run or walk too quickly if carrying pencils.
Differentiating Instruction	Intermediate and Advanced <ul style="list-style-type: none">• Set up lanes that students need to travel in. Include stop signs and intersections.
Best Practices	<ol style="list-style-type: none">1. Complete this activity when weather prevents riding outside.

RULES OF THE ROAD WORKSHEET



Student _____ Date _____

Directions: Please answer the questions below with your partner.

1. What side of the road should bicyclists ride their bikes on? Why?
2. Where should bicyclists be positioned in a traffic lane? Why?
3. Can you demonstrate to your partner the hand signals used to indicate a right turn? Left turn? Slowing and stopping?
4. Discuss some situations where it is important for bicyclists to communicate with pedestrians, motorized vehicles and other bicyclists. What would you say and/or do?
5. What are some rules of etiquette for riding on a trail?

RULES OF THE ROAD WORKSHEET

ANSWER KEY



1. What side of the road should bicyclists ride their bikes on? Why?

Bicyclists should ride their bicycles on the right side of the road in the same direction as traffic. A bicyclist is considered a motor vehicle and must follow the same rules of the road.

2. Where should bicyclists be positioned in a traffic lane? Why?

Most state laws indicate that a bicyclist should ride as far to the right as is safe, or practicable. A common error among bicyclists is to ride too far to the right where they may hit a curb or don't have enough room to maneuver around a hazard. A bicyclist positioned too far to the right is less visible to motorists.

3. Describe the hand signals used to indicate a right turn? Left turn? Slowing and stopping?

Right turn: Left arm extended and parallel to the ground, elbow bent so hand is pointing up.

Left turn: Left arm extended and parallel to the ground pointing left.

Slowing and stopping: Left arm extended and parallel to the ground, elbow bent so hand is pointing down.

4. Discuss some situations where it is important for bicyclists to communicate with pedestrians, motorized vehicles and other bicyclists. What would you say and/or do?

It is important for bicyclists to communicate lane changing, turning, stopping and slowing. You should verbally and visually communicate your intentions. Bicyclists should be deliberate and courteous. Bicyclists should try to make eye contact with motorists and other bicyclists.

5. What are some rules of etiquette for riding on a trail?

Responses include:

Always ride to the right, allowing others to pass on the left

Use communication skills for signaling. Communication: verbal and visual (pointing)

Always stay to the right

Pass only on the left

'Right of way' – equestrians, pedestrians, bicyclists

When stopped, move off the trail so others can pass

Be respectful of the trail and other bicyclists (or equestrians/pedestrians)

When riding at night, use lights in front and rear of bicycle

Always be predictable and courteous



SKILL-BASED ACTIVITY

Rules of the Road

Timeframe

Beginner: 45 minutes
Intermediate: 35 minutes
Advanced: 25 minutes

Objective

At the conclusion of this activity the student will be able to:

1. Describe key concept of safe riding, as measured by participation in peer discussion about Rules of the Road. (Cognitive)
2. Demonstrate exceptional or reliable performance of Rules of the Road during the Chaos Corners activity as measured by the Rules of the Road rubric. (Psychomotor)
3. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards

Standard 2
Standard 3
Standard 4

Equipment

- Helmets
- Head barriers
- Bicycles
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polypots or chalk to mark riding course
- *Bike Tips for Youth* handout (optional)
www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf

Teacher Overview

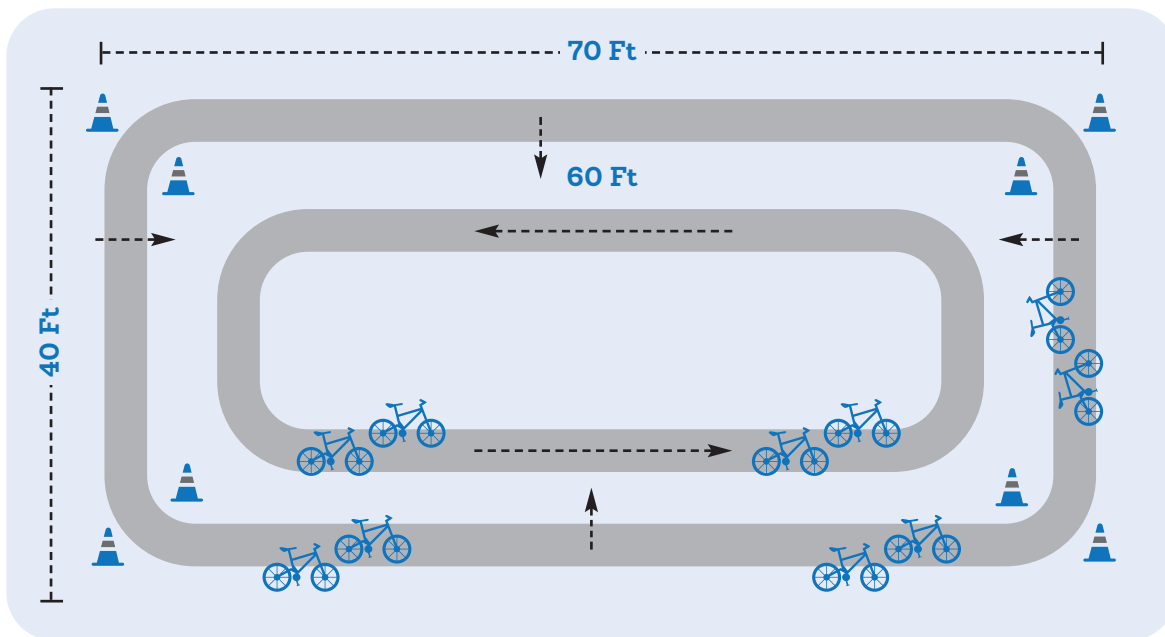
This activity provides further discussion about Rules of the Road for bicycles. The Chaos corner course and activity is used to enable students to apply rules of the road while on their bicycles. The riding portion of this activity supports why these rules are important to have and follow.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up a Chaos Corners course, using cones, chalk or field paint, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students and where students will return when instructed.
3. Mark out a large rectangle approximately 70'x40'.

4. Practice the Rules of the Road activity on the Chaos Corners course before demonstrating to students.
5. Identify the bicycle laws specific to your state or local jurisdiction.
6. Make appropriate number of copies of *Bike Tips for Youth* handout (optional).

Diagram: Rules of the Road Course



Directions

1. Introduce this activity using the following prompt:
Today, we will be learning more about the Rules of the Road for bicyclists and why it is important to follow them.
2. Use the following sample questions to prompt students' thinking about the content in this activity. All questions are **True or False**

Q: A bicycle is a vehicle when it is on the road.

A: True: Any time you ride a bicycle on the road, your bicycle is considered a vehicle (and you are considered the driver of a vehicle). As a vehicle, you have the same rights and the same responsibilities as motorists. This class will be your first driver education class and we will discuss safe bicycle driving skills. Although bicyclists have the same rights as a vehicle when on the road, it is important to remember that in a crash, the bicyclist is more likely to be injured than the motorist. Therefore, as a bicyclist, it's important to always look out for the other guy; it's always better to be safe than sorry. When a bicyclist dismounts and walks, he/she is considered a pedestrian and must follow the rules of a pedestrian.

Q: I should obey traffic lights when riding my bicycle on the road.

A: True: Because a bicycle is a vehicle, you must obey all traffic signs and signals. This means that when there is a stop sign or red light, the bicyclist must come to a complete stop and should place one foot on the ground. The bicyclist should not proceed until he has looked left-right-left for traffic and there is no traffic or it is your turn to safely go. This is a skill you should have learned as a pedestrian and it applies as a bicyclist and motorist.

Q: I should ride my bicycle facing traffic.

A: False: Because a bicycle is a vehicle, you must ride on the right side of the road in the same direction as traffic. This is safer than riding facing traffic because you can act like a vehicle and your actions are more predictable.

Q: I can keep riding my bicycle when I hear a siren from an emergency vehicle.

A: False: Because a bicycle is a vehicle, when you hear a siren from an emergency vehicle (e.g., police, fire, emergency), you must pull over to the side of the road on the right and stop to allow the emergency vehicle to pass safely.

Q: While bicycling, I should always hand-signal turns or stops.

A: True: Because a bicycle is a vehicle, you must signal your intention to turn or stop by using hand signals. Because bicycles do not have brake lights, it is important to signal your intentions of slowing down or stopping. This is especially important if you are riding with a group of bicyclists. The left hand is safest to perform these signals for a number of reasons:

- The right hand controls the rear brake and allows a rider to signal and apply the brakes, without the danger of being thrown over the handlebars.
- Motor vehicle drivers may not recognize or expect to see turn signals being made with the right hand.

Q: I only need to look straight ahead when riding my bicycle.

A: False: It is critical to always know what is going on around you, in all directions, when riding a bicycle. Because bicycles do not have rear view and side view mirrors to see what is going on (unless they are purchased and worn by the bicyclist), it is important for the bicyclist to scan in front, to the right, to the left and to the back. The skill of scanning is also used to safely change lanes. We will practice how to safely scan in all directions while riding a bicycle in another lesson.

Q: I should always ride as fast as I can when I am riding my bicycle on the road.

A: False: Vehicles should obey posted speed limits because these are the speeds at which a driver can control a vehicle on a particular road and allow for safe stopping. A bicyclist should always maintain a controlled speed. This is important because it enables a rider to maintain control of the bicycle and safely stop. It actually requires more skill to ride a bicycle very slowly.

Q: I should have a light on my bicycle if I am riding at night.

A: True: Riding a bicycle at night can be very dangerous and is discouraged. The biggest danger is not being seen by other vehicles. Vehicles are required to have headlights and taillights to help with visibility. This is true for bicycles as well. When riding at night, a bicycle should have a battery-powered headlight and a red rear reflector, in addition to normal reflectors. (Each state may have different laws as to what types of lights are required on bicycles when ridden at night.)



3. Complete the Helmet Fit and ABC Quick Check (#4-10) if have not been completed as part of the current day's lesson; otherwise proceed to (#11.)
4. Divide students into groups of two or three.
5. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
6. Instruct students to retrieve bicycles according to number assigned.
7. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly and to provide prompts if an item was missed. Switch roles.
8. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
9. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
10. Explain and demonstrate skills to students on the Chaos Corners course reinforcing the following points. Riders should:
 - Ride inside the rectangle area anywhere they would like.
 - Stay inside the boundaries and not run into anyone else, and
 - Ride continuously.
11. Line students up in pairs, with their bicycles outside of the large rectangle.
12. Add students into the rectangle by twos every five seconds.
13. Allow students to ride for five minutes.
14. Move cones in 10 feet from one of the rectangle's shorter sides to make the riding area smaller, so it is now 40' x 60'.
15. Allow students to ride for 2-3 more minutes.
16. Move cones in again.
17. Continue until area is slightly congested for riding, but students are still able to maneuver safely. This will depend on the size of the class.
18. Typically, as the area becomes smaller, students will begin to ride in a circle without any communication.
19. After three minutes, conclude activity and debrief with students by asking the following questions.

Q: What happened when everyone first started riding and the area was large?

A: Any of the following:

 - Plenty of room to move around
 - Could ride wherever
 - Other answers may be accepted.

Q: What happened when the area got smaller?

A: Any of the following:

- Harder to ride where you wanted
- Needed to communicate more
- Got nervous
- Other answers may be accepted.

Q: Why did everyone start riding in the same direction?

A: Any of the following:

- Because it felt safer
- To become predictable
- Other answers may be accepted.

Q: How does what happened in Chaos Corners apply to riding with traffic?

A: Any of the following:

- It is safer to be predictable
- Had a better idea of what other riders/drivers would do
- Other answers may be accepted.

20. Prepare and provide copies of Bike Tips for Youth handout(s) for take home. (optional)
http://www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf

Assessment

1. All students should participate in group discussion about Rules of the Road conversation.
2. Assess performance of Rules of the Road activity on the Chaos Corners course of each student using the following rubric:

PERFORMANCE RUBRIC: RULES OF THE ROAD

Exceptional	Reliable	Inconsistent	Struggling/ Survival
Student is committed to riding safely during activity; Student reliably maintains a safe speed and distance, without reminders from the teacher.	Student is committed to riding safely during activity; Student maintains a safe speed and distance during activity, but may need a reminder/prompt from teacher	Student is somewhat committed to safe riding, particularly when a teacher prompts appropriate riding behavior; Student will maintain a safe speed and distance during the activity, with reminders and supervision.	Student is unable to participate in the activity due to unsafe behavior; Student lacks control of his bike and balance, so that riding in this activity is unsafe for all involved.

3. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Consider having students walk through this activity, instead of riding bicycles, for safety reasons.

Intermediate and Advanced

- Progression to a smaller sized area can occur more quickly.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between bicyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.



SKILL-BASED ACTIVITY

Lane Positioning

Timeframe

Adapted/Beginner: 30 minutes
Intermediate: 30-60 minutes
Advanced: 20-50 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable lane positioning as measured by the lane positioning rubric. (Psychomotor)
2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 3
Standard 4

Equipment

- Helmets
- Head barriers
- Bicycles
- Bicycle pump
- Allen wrench
- Red floor tape
- Cones, domes, polypots or chalk to mark riding course
- *Pin the Bicyclist on the Road* worksheets
- Pencils
- Two-way radios or cell phones

Teacher Overview

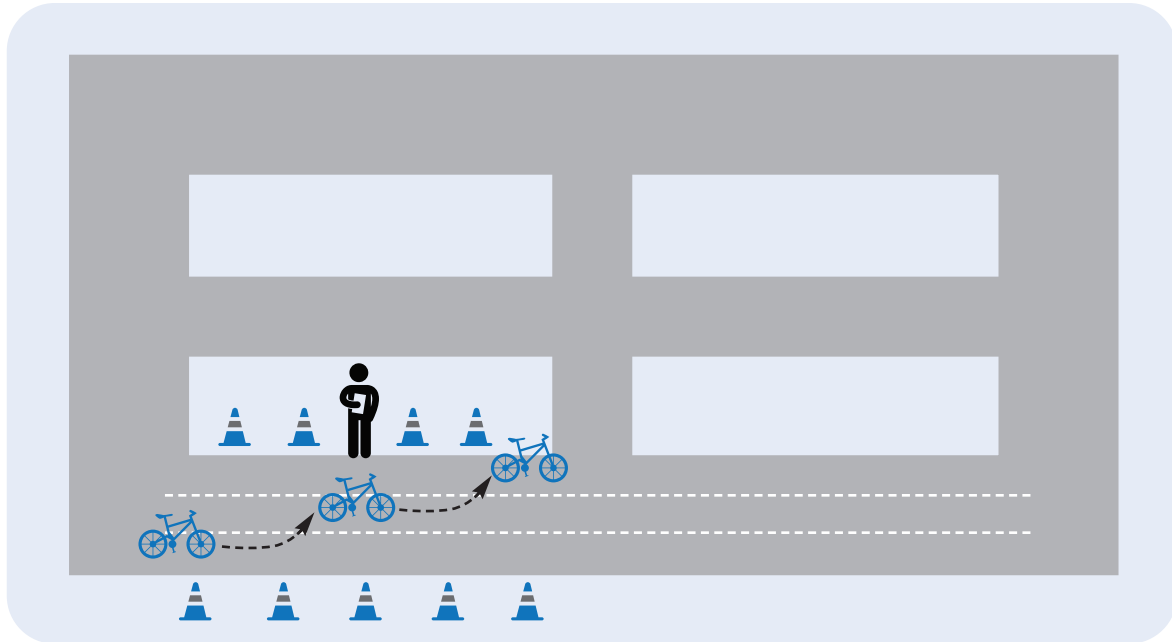
This activity teaches proper lane positioning when riding in the road and through intersections. Proper lane positioning is an important safety behavior. This activity provides lane positioning practice through the use of mock intersections. However, there is an option to provide lane positioning practice using an actual intersection in the surrounding area. This option is not recommended for beginner or adapted riders.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up a lane positioning course and intersection course, using cones, chalk or field paint, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students, and where students will return when instructed.
3. Mark out a large rectangle approximately 70'x40' with 3 riding lanes approximately 12' each.

- Using the Lane Positioning Course or another location mark out a large rectangle with an inside cross approximately 70'x40' with 3 riding lanes approximately 12' each.

Lane Positioning Course



- Practice the lane positioning skill before demonstrating to students.
- Make appropriate number of copies of *Place the Bicyclist on the Road* worksheets.
- If using *Cyclist's Eye View* video, preselect which scenes from the video are appropriate to show to students depending on which situations they are likely to encounter in their community. (optional)
- If using real intersections to practice lane positioning, pre-determine a route for students to ride that includes at least 2 left turns, 2 right turns, a 2-way intersection and a 4-way intersection. (optional)
- If using real intersections to practice lane positioning, try to secure other adult riders to participate in the activity to maximize the safety of students. (optional)
- Distribute method of communication (i.e., two-way radios, cell phones) to be used among all adults on the ride and with the main office in case of emergency.
- Ride the course the day before taking students on the course to ensure rideability. (optional)

Directions


1. Introduce this activity using the following prompt:

Proper lane positioning is a very important element of safe riding. When you are in the proper part of the lane you tend to be predictable to other bicyclists and motor vehicles. Proper lane positioning also helps to set a rider up for proceeding correctly through an intersection. While determining proper lane positioning, bicyclists must also learn to negotiate intersections safely by stopping, scanning for traffic, being seen and signaling if necessary.

2. Use the three (3) different *Place the Bicyclist on the Road* worksheets to help students visualize proper lane positioning.
3. Explain to students that there are three positions that a bicyclist can be in while riding in a lane: left third, center third and right third. A bicyclist should be in the right-most lane that goes in the direction of travel.
4. Instruct students to complete each of the *Place the Bicyclist on the Road* worksheets following the directions on each worksheet. This can be done individually, in small groups or as a large group.
5. Review the correct responses as a group.
6. Complete the Helmet Fit and ABC Quick Check (#7-13), if not already completed, as part of the current day's lesson; otherwise proceed to (#14.)
7. Divide students into groups of two or three.
8. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
9. Instruct students to retrieve bicycles according to number assigned.
10. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly, and to provide prompts if an item was missed. Switch roles.
11. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
12. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
13. Explain and demonstrate skills to students on the lane positioning course reinforcing the following points. Riders should:
 - Ride in the right third of the lane for three minutes.
 - Practice changing lane positioning in the straight riding course.
 - Move from the right third to the middle third to the left third.
 - Change lanes properly following three steps: Scan, Signal and Move.
 - Complete these steps BEFORE crossing the dashed line into the next third of the lane.



14. Explain and demonstrate skills to students on the intersection course reinforcing the following points. Riders should:
 - Practice right-hand turns by turning from the right third of the lane into the right third of the lane.
 - Practice going straight from a shared-use lane by moving to the middle of the lane, proceeding through the intersection and after crossing the intersection, moving to the right third of the lane.
 - Practice left-hand turns in a left-hand turn only lane by being in the right third of the turn lane.
 - Practice left-hand turns in a shared-use lane by turning from the left third of the lane into the right third of the lane.
15. Allow students to practice different situations at intersections by allowing them to ride continuously for 5-7 minutes.
16. Encourage students to vary their route by choosing to turn left, right or go straight and yielding to other bicyclists at the intersections.
17. If opting to have students practice using actual intersections, explain the skills that students will complete on the ride reinforcing the following points. Riders should:
 - Practice right-hand turns by turning from the right third of the lane into the right third of the lane.
 - Practice going straight from a shared-use lane by moving to the middle of the lane, proceeding through the intersection and after crossing the intersection, moving to the right third of the lane.
 - Practice left-hand turns in a left-hand turn only lane by being in the right third of the turn lane.
 - Practice left-hand turns in a shared-use lane by turning from the left third of the lane into the right third of the lane.



All vehicles must follow right-of-way rules to safely cross intersections. Right-of-way helps you decide who goes first at an intersection.

- Base Rule: **First to Stop = First to Go.**
 - The first vehicle at the intersection goes through the intersection first.
- If base rule doesn't apply: **Farthest Right Goes First.**
- When two vehicles get to the intersection at the same time, the vehicle on the right goes first; it has the right-of-way.
- **When in Doubt, Bail Out.** This trumps all rules.
 - Even if you have the right-of-way, if for any reason you feel uncomfortable or that your safety is threatened, let the other traffic go ahead. Your safety always comes first.
- If neither the base rule nor furthest right rule apply: **Straight Traffic Goes First.**
- When two vehicles are directly across from each other and one is turning left, the one that is going straight goes first. For a designed copy of this handout, see: www.nhtsa.gov/Driving+Safety/Bicycles/RightOfWay

Assessment

1. Assess performance of lane positioning of each student using the following rubric.

PERFORMANCE RUBRIC: LANE POSITIONING 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student reliably and consistently obeys traffic laws and uses correct signals in all traffic situations;</p> <p>Student always positions herself in the right 1/3 of the lane, even after a turn;</p> <p>Student correctly scans, signals, and then moves when changing lanes;</p> <p>Student reliably has the correct positioning for a left-hand turn.</p>	<p>Student demonstrates the ability to obey traffic laws, but may not use it all the time;</p> <p>Student can use correct signals in all traffic situations, but may not signal each time;</p> <p>Student typically positions herself in the right 1/3 of the lane, even after a turn;</p> <p>Student can correctly scan, signal, and then move when changing lane, but she may forget a step;</p> <p>Student reliably has the correct positioning for a left-hand turn.</p>	<p>Student may not know or remember all traffic laws, and may not follow them at all times, without teacher prompts;</p> <p>Student may have difficulty remembering which signal to use and/or does not consistently use a hand signal;</p> <p>Student does not yet have the ability to scan without weaving, so changing lanes is very difficult;</p> <p>Student does not position herself in a lane correctly.</p>	<p>Student does not know and/or remember the majority of traffic laws that are important to cycling;</p> <p>Student is not able to signal (not able to ride with one hand) and therefore does not signal;</p> <p>Student does not correctly position herself in the lane and cannot scan over her shoulder.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Students can walk through the skills before performing them on a bicycle.

Intermediate and Advanced

- Activities can be performed in a neighborhood close to the school to simulate real-world experiences.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.

PLACE THE BICYCLIST ON THE ROAD



Student _____ Date _____

Background

The following activity refers to where the bicyclist should be within a lane based on the desired action. This requires you to imagine in your mind a single lane divided into three parts.

Directions

1. Place the bicyclist in the proper part of the lane based on each of the different situations: Use A for situation A, making a right turn at the intersection; Use B for situation B, making a left turn at the intersection; and Use C for situation C, going straight.

2. Place the associated letters where the bicyclist should be positioned when: entering the intersection and exiting the intersection.

Note: The arrows indicate the direction of travel.

A. Making a right turn

B. Making a left turn

C. Proceeding straight

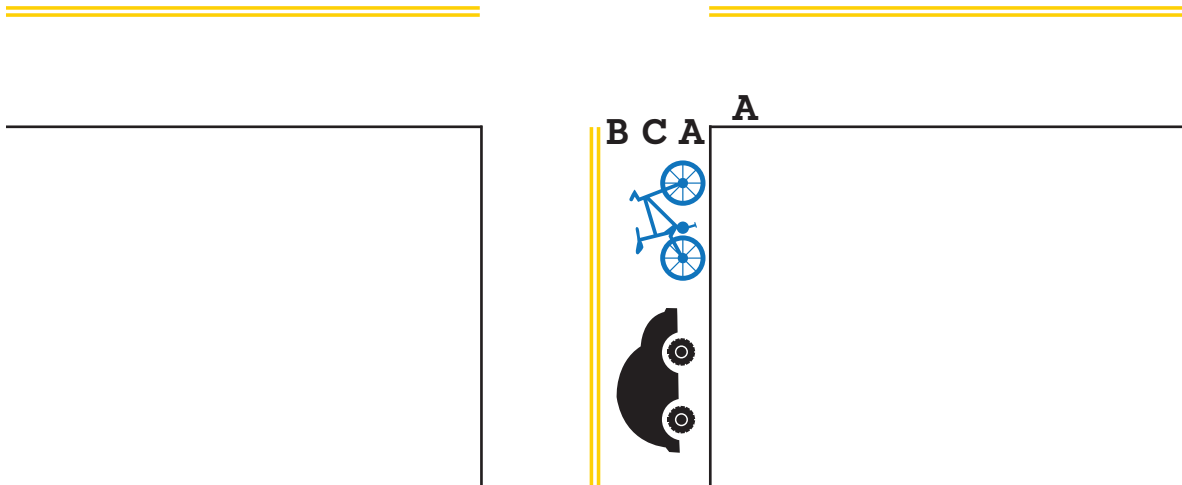
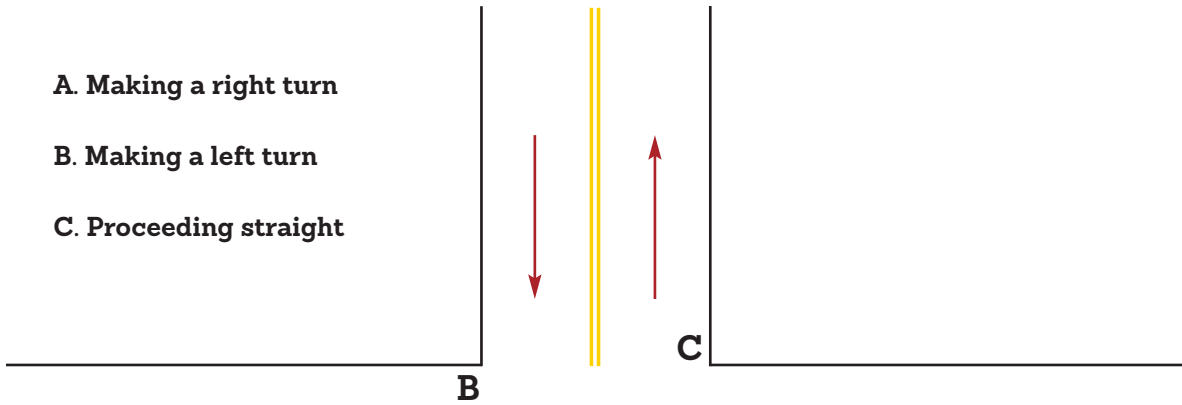
PLACE THE BICYCLIST ON THE ROAD

ANSWER KEY

A. Making a right turn

B. Making a left turn

C. Proceeding straight

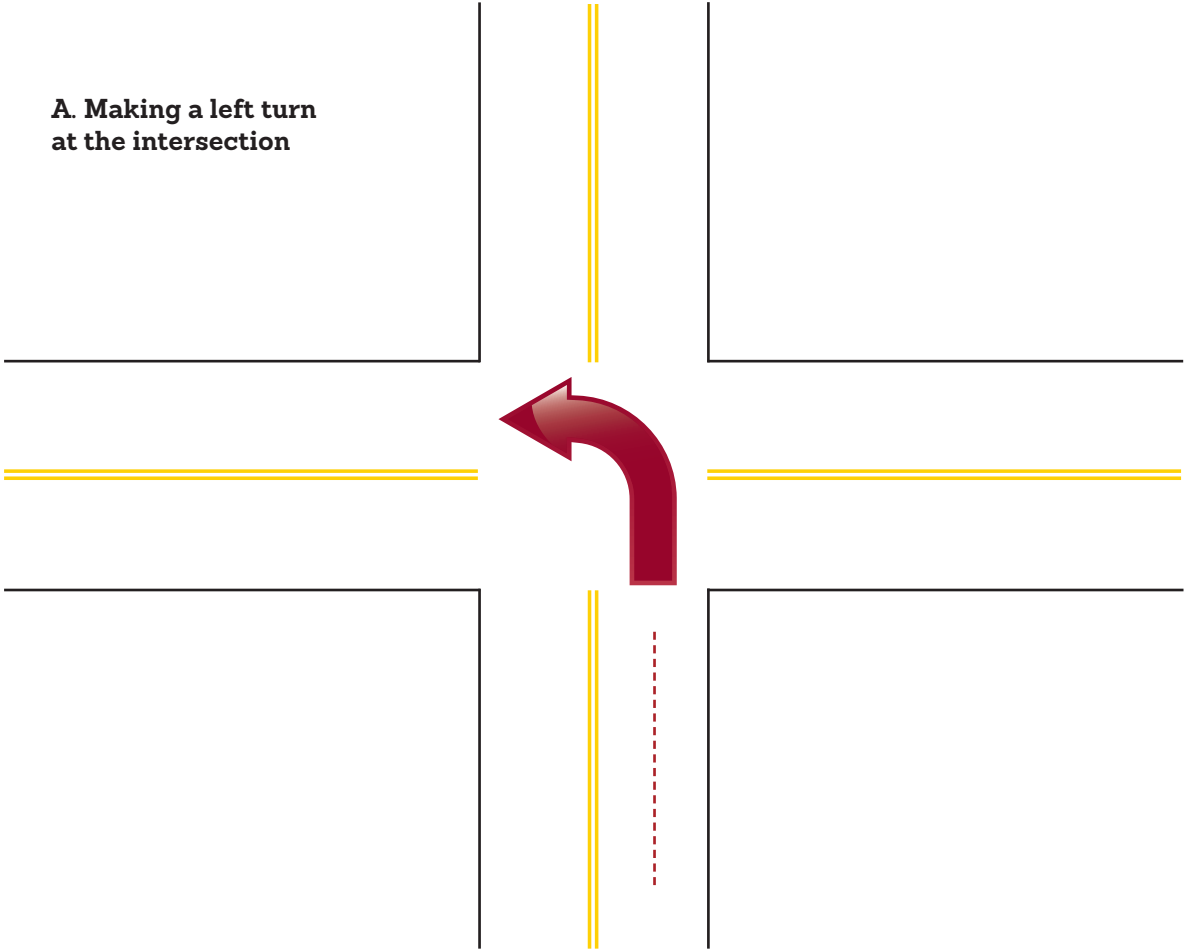


PLACE THE BICYCLIST ON THE ROAD



Student _____ Date _____

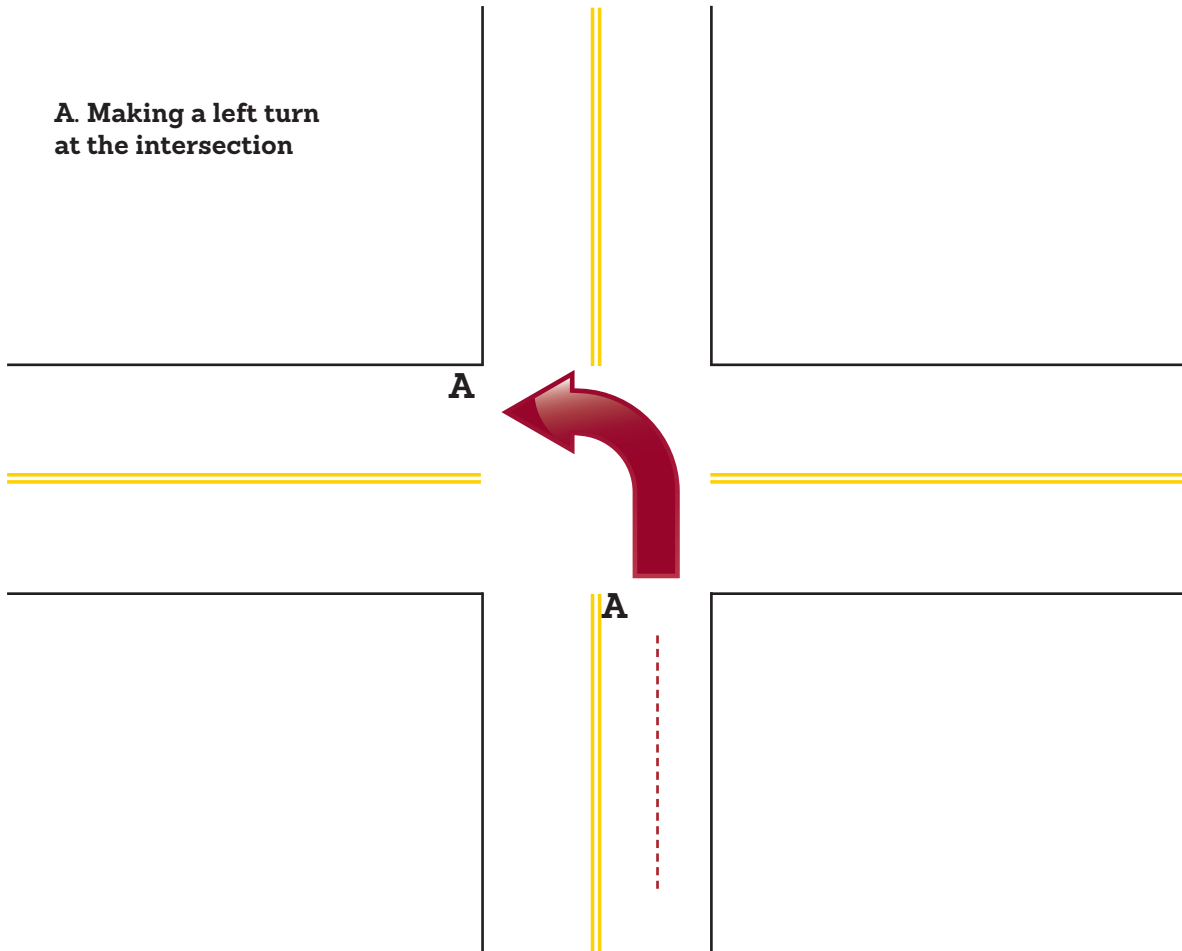
Directions Place an A at the position a bicyclist would be if he/she was making a left turn and there was a designated left turn lane?



PLACE THE BICYCLIST ON THE ROAD

ANSWER KEY

A. Making a left turn at the intersection



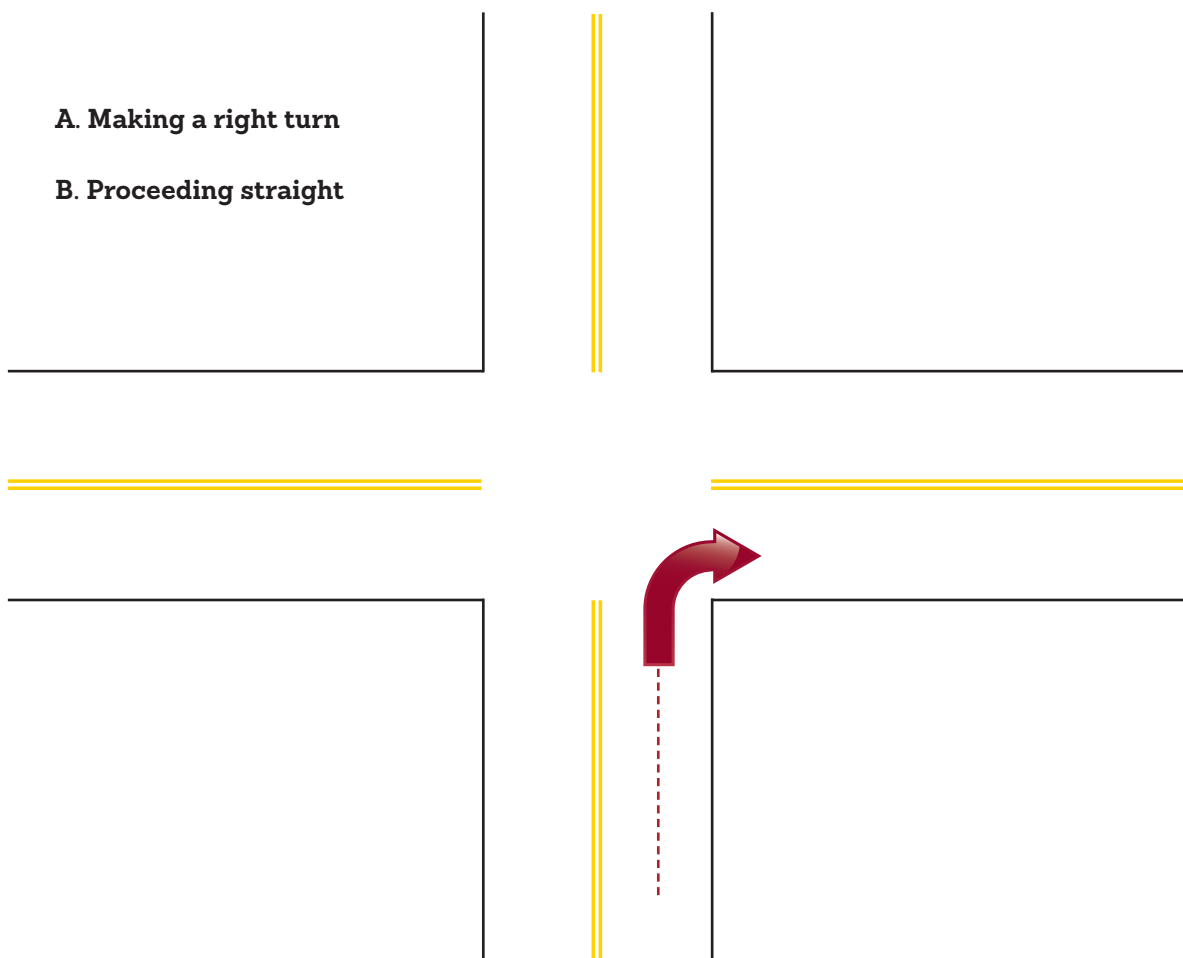
PLACE THE BICYCLIST ON THE ROAD



Student _____ Date _____

Directions

1. Place an A at the position a bicyclist would be if he/she were making a right turn, and there was a designated right turn lane.
2. Place a B at the position a bicyclist would be if he/she were proceeding straight, and there was a designated right turn lane.

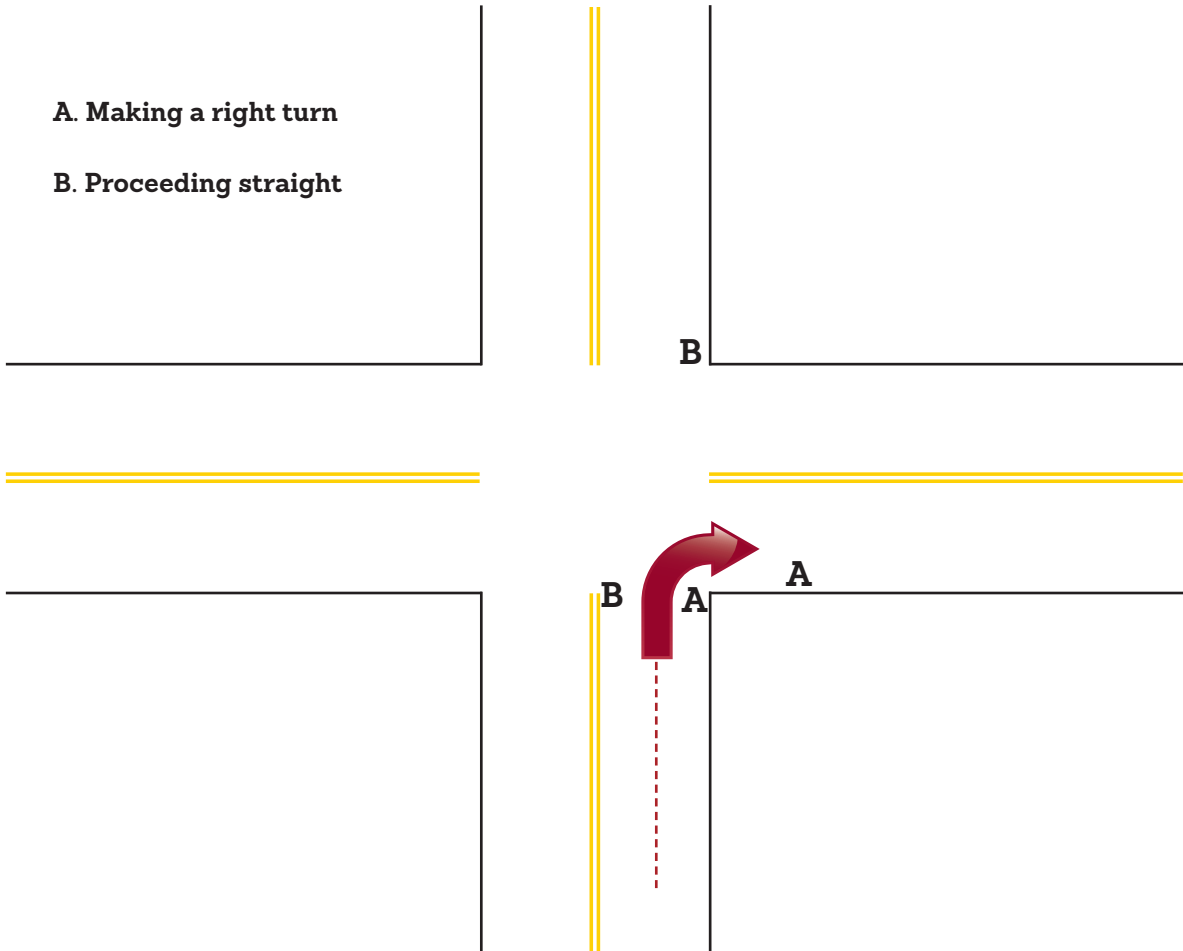


PLACE THE BICYCLIST ON THE ROAD

ANSWER KEY

A. Making a right turn

B. Proceeding straight





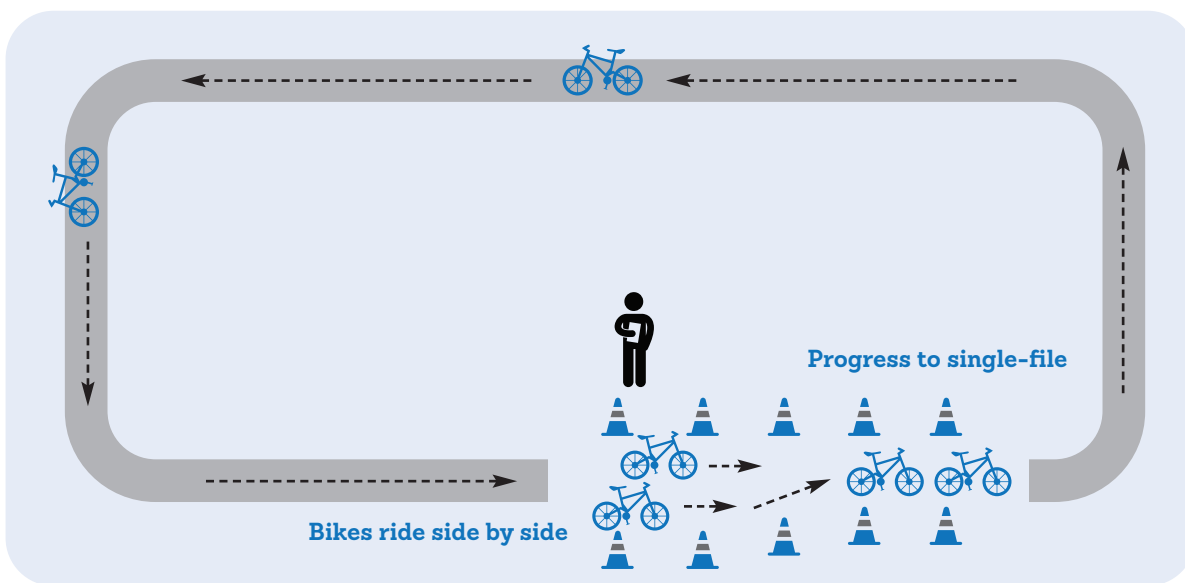
SKILL-BASED ACTIVITY

Group Riding Etiquette

- Timeframe** **Adapted and Beginner:** N/A
Intermediate: 20-30 minutes
Advanced: 15-20 minutes
- Objectives** At the conclusion of this activity, the student will be able to:
1. Demonstrate exceptional or reliable bicycle etiquette associated with group rides as measured by the bicycle etiquette rubric. (Psychomotor)
 2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
- National Standards** Standard 1
Standard 2
Standard 3
Standard 4
- Equipment**
- Helmets
 - Head barriers
 - Bicycles
 - Bicycle pump
 - Allen wrench
 - Red floor tape
 - Cones, domes, polyspots or chalk to mark riding course
 - *Bike Safety: Tips for Youth* handout
www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf
 - *Communication & Cycling* worksheet (optional)
 - Pencils (optional)
- Teacher Overview** This activity teaches and/or strengthens bicycling etiquette that is especially important when riding in a group setting. There are two courses within this activity to reinforce cycling etiquette skills.
- Preparation**
1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
 2. Set up a riding course, using cones, chalk or field paint, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students and where students will return when instructed.

3. Lay out the **Who Goes First?** course based on the associated diagram.

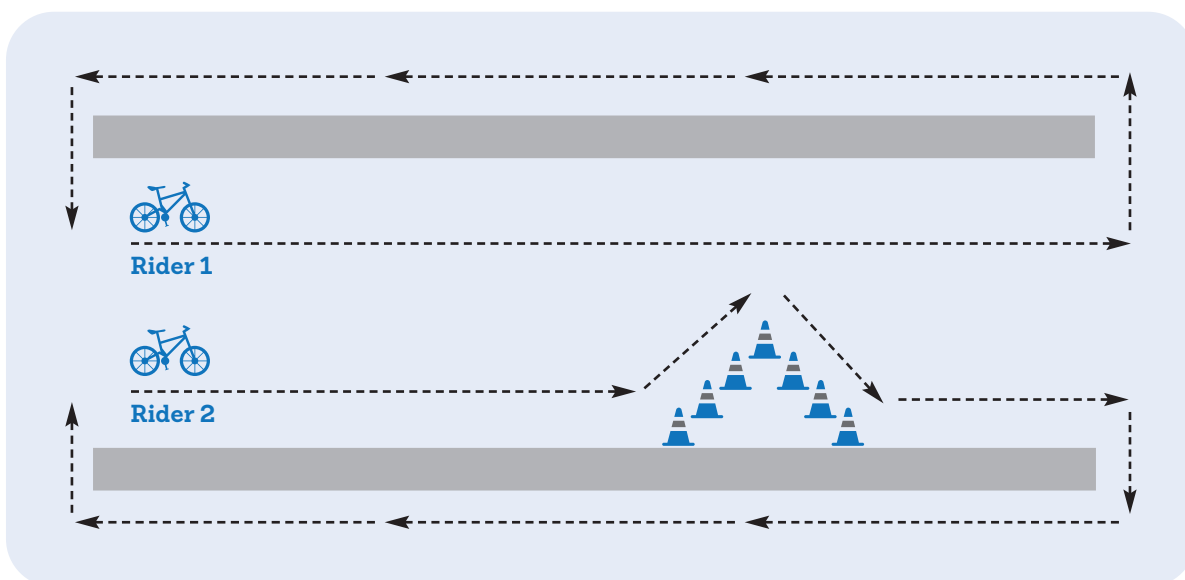
Diagram: Who Goes First?



4. Layout the *Squeeze Box* course based on the associated diagram, preferably in the middle of the riding course. Students will complete the *Squeeze Box* course after completing *Who Goes First?* If space allows, set up both courses at the same time; if space does not allow for both courses to be set up at the same time, make sure all materials for the *Squeeze Box* course are ready to go when the *Who Goes First?* course is completed by all students.

Note: Riders ride side by side and must communicate who goes first when they encounter the obstacle.

Diagram: Squeeze Box Course



5. Practice the *Who Goes First?* and *Squeeze Box* courses before demonstrating to students.
6. Make appropriate number of copies of *Bike Safety: Tips for Youth* handout
7. Make appropriate number of copies of *Communication & Cycling* worksheet (optional)

Directions

1. Introduce this activity using the following prompt:

We have talked a lot about the importance of having rules to follow when riding and communicating with other riders. Today, we are going to practice combining this information with the actual skills to continue to make you a safer rider when you ride with a partner and in groups.

2. Use the following sample questions to prompt students' thinking about the content in this activity.

Q: You are riding with a group of other bicyclists in single-file and you approach a stop sign. How would you signal to each bicyclist in the line that you were slowing down and stopping?

A: Both nonverbal and verbal signals are necessary. You could call out 'slowing' and/or 'stopping' AND also use the stop hand signal.

Q: You are riding side by side with a friend and you needed to get into single-file, because up ahead there wasn't enough room to continue to ride side by side. How would you determine who should go where?

A: Communicating who was going first and who was dropping behind.

Q: Considering everything we have learned to date, what skills and behaviors might be important with regard to cycling etiquette?

A: Distribute and review *Bike Safety: Tips for Youth* handout.
http://www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf



3. Complete the Helmet Fit and ABC Quick Check (#4-10) if they have not been completed as part of the current day's lesson; otherwise proceed to (#11.)

4. Divide students into groups of two or three.
5. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
6. Instruct students to retrieve bicycles according to number assigned.
7. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly, and to provide prompts if an item was missed. Switch roles.
8. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
9. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.

10. Conduct the **Who Goes First** activity
 - Explain and demonstrate skills to students on the Who Goes First? course, reinforcing the following points. Riders should:
 - Ride side by side until they encounter an obstacle.
 - Communicate by saying, 'You go first' to indicate who goes first and second around the obstacle.
 - Make the decision about who goes first right when they encounter the obstacle, instead of before, to make the activity more realistic.
 - Ride back to the beginning on the outside of the station after completing the course.
 - Switch sides – whoever was riding on the left is now on the right when they ride through the course a second time.
 - Another option for this activity is for students to ride side by side. When the teacher signals they must decide who goes first. This option would not have an obstacle, but would encourage more impromptu decision-making. The teacher could signal again to have students return to side by side riding.
 - Divide students in pairs or in a group of three if necessary.
 - Instruct students that those who are not participating in the activity can ride around the outside of the skill practice area to increase fitness until it is their turn.

11. Set up the *Squeeze Box* activity course if you have not already done so, due to limited space.

12. Conduct the **Squeeze Box** activity
 - Instruct students to gather at the teaching station.
 - Explain and demonstrate skills to students on the Who Goes First? activity course, reinforcing the following points. Riders should:
 - Start and end as a group.
 - Stay within the boundaries of the activity course.
 - Stay within the lines.
 - Communicate with fellow riders to determine who will go ahead, who will go right or left, who will ride behind and when to finish.

13. Divide students into groups of three or four. Group size can increase to five or six with more advanced riders.

14. Start group at the starting line, shoulder to shoulder.

15. Instruct students to evaluate their performance using the *Communication & Cycling* worksheet (optional).

Assessment

1. Assess performance of group riding etiquette of each student using the following rubric.

PERFORMANCE RUBRIC: GROUP RIDING ETIQUETTE 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student consistently verbally and nonverbally communicates his intentions with other riders;</p> <p>Student knows when to speed up or slowdown in order to maneuver safely, and allow other riders to maneuver safely;</p> <p>Student is conscientious of other riders' safety as well as his own.</p>	<p>Student verbally and/or nonverbally communicates his intentions with other riders, but may not do both all the time;</p> <p>Most of the time the student is able to determine when to speed up or slowdown in order to maneuver safely, or to allow other riders to maneuver safely, but is not completely consistent and may require prompting by the teacher and/or other students;</p> <p>Student is conscientious of other riders' safety as well as his own.</p>	<p>Student can communicate his intentions either verbally or nonverbally (typically not both at the same time), but this may not be on a consistent basis;</p> <p>Student has difficulty determining when to speed up or slowdown in order to maneuver safely, or to allow other riders to maneuver safely, and needs significant help from teacher and/or other students;</p> <p>Student is too focused on his own riding to be conscientious of other riders' safety.</p>	<p>Student is unable to participate in the activity due to unsafe riding behavior:</p> <p>Student is unable to signal;</p> <p>Student is unable to gauge his own speed and position, relative to that of others, to ride in this activity in a safe manner.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Not recommended

Intermediate

- Fewer students can be in one group during the *Squeeze Box* activity if necessary.

Advanced

- More students can be in one group during each activity.
- Courses can be made slightly narrower or more lines added.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.

COMMUNICATION & CYCLING WORKSHEET



Student _____ Date _____

Directions: Assess yourself and your partner(s) on how well you communicated while cycling in the Who Goes First and Squeeze Box activities. Place a check mark in the column that best describes what happened in *Who Goes First?* and *Squeeze Box*.

Who Goes First?				Squeeze Box			
	Every time	Almost Every time	Didn't happen		Every time	Almost Every time	Didn't happen
I communicated with my riding partner by saying who goes first.				My group started together.			
I moved ahead or behind when arriving at the obstacle.				Everyone in my group communicated verbally.			
My partner communicated with me by telling me who would go first.				Everyone in my group kept themselves and other riders safe.			
My partner moved ahead or behind when arriving at the obstacle.				My group ended together.			
We were able to get back to riding side by side.							



SKILL-BASED ACTIVITY

Bike Path / Trail Group Ride

- Timeframe** **Beginner:** N/A
Intermediate and Advanced: 30 minutes
- Objectives** At the conclusion of this activity, the student will be able to:
1. Demonstrate exceptional or reliable bicycle etiquette associated with bicycle paths/trails as measured by the bicycle paths/trails rubric. (Psychomotor)
 2. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
- National Standards** Standard 1
Standard 2
Standard 3
Standard 4
- Equipment**
- Helmets
 - Head barriers
 - Bicycles
 - Bicycle pump
 - Allen wrench
 - Cones, domes, polypots or chalk to mark riding course
 - Two-way radios or cell phones
 - *Bike Safety: Tips for Youth* handout
www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf
- Teacher Overview** This activity teaches and/or strengthens bicycling etiquette that is especially important when riding on bicycle paths and/or trails. One of the challenges with riding on bicycle paths and/or trails is that there are no rules as there are when riding on roads. So it is especially important to practice bicycling etiquette. This activity will be conducted on a bicycle path or multi-use path. It is best to have additional adults accompany students on the ride to ensure the safety of students. This activity is not recommended for beginner or adapted riders.
- Preparation**
1. Designate a riding course for the ABC Quick Check that enables the teacher to see the students at all times.
 2. Determine route that will be ridden.
 3. Secure other adult riders to participate in the activity to better ensure the safety of students.
 4. Determine checkpoint locations at which all students will stop to discuss portions of the ride.

5. Distribute method of communication (i.e., two-way radios, cell phones) to be used among all adults on the ride and with the main office in case of emergency.
6. Ride the course the day before taking students on the course to ensure rideability.
7. Make appropriate number of copies of *Bike Safety: Tips for Youth* handout.

Directions

Introduce this activity using the following prompt:

You will need to use all of the skills and information that you have learned in previous units. One of the most important things that you will need to remember is to communicate with other riders and people that you encounter on the path.

2. Use the following sample questions to prompt students' thinking about the content in this activity.

Q: What kinds of things might you encounter when riding on a bicycle path/trail?

A: Any of the following:

- People walking/ jogging
- Children
- Dogs
- Other bicyclists
- Other responses may be accepted

Q: What are the positives of riding on a path?

A: Any of the following:

- No cars
- Varied terrain
- Other responses may be accepted

Q: What are the challenges?

A: Any of the following:

- Few rules if any
- People aren't paying attention as much as on the road
- Other responses may be accepted

3. Complete the Helmet Fit and ABC Quick Check (#4-10), if not already completed, as part of the current day's lesson; otherwise proceed to (#11.)
4. Divide students into groups of two or three.
5. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
6. Instruct students to retrieve bicycles according to number assigned.

7. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly and to provide prompts if an item was missed. Switch roles.
8. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
9. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
10. Distribute the *Bike Safety: Tips for Youth* handout and discuss some bicycling etiquette rules to follow when riding on a bicycle path/trail reinforcing the following points. Riders should:
 - Always stay to the right.
 - Pass only on the left and move back to the right when it is safe.
 - When stopped, move off the trail so others can pass.
 - Only use a small portion of the trail if riding in a group, so others may safely pass.
 - Always stay on the trail and be respectful of private property.
 - Clean up any litter/debris and Leave No Trace (for additional information on Leave No Trace, see: www.lnt.org).
 - Vocalize all signals or warnings, either by voice or bell/horn, giving people time to act.
 - Call out 'On your left' when passing.
 - Always yield to other users who are slower.
 - Always yield to riders / walkers / hikers coming uphill.
 - Always be predictable and courteous.
 - Use safe cycling skills, including constant scanning.
11. Pair students with a cycling partner with whom they will stay the entire ride.
12. Divide students in teams of 4-6, with each team having a ride captain. The ride captain is responsible for making sure all team members get to each checkpoint safely.
13. Instruct students to practice the skill of signaling when passing (horn, bell and 'on your left' verbal signal).

Assessment

1. Assess performance of bicycle path/trail group ride of each student using the following rubric.

PERFORMANCE RUBRIC: BICYCLE PATH/TRAIL GROUP RIDE 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student communicates verbally and nonverbally with other riders and path users on a consistent basis;</p> <p>Student rides under control at all times and is conscientious of others on the path;</p> <p>Student practices good cycling etiquette at all times, which include most, if not all, the behaviors listed in the <i>Bike Safety: Tips for Youth</i> handout.</p>	<p>Student communicates verbally and/or nonverbally with other riders and path users, and does so with little prompting from teacher or other riders;</p> <p>Student rides under control nearly all the time and is conscientious of others on the path;</p> <p>Student practices good cycling etiquette most of the ride without prompting by teacher, which includes a large majority of those behaviors listed in the <i>Bike Safety: Tips for Youth</i> handout.</p>	<p>Student communicates either verbally or nonverbally (but not both) with other riders and/or path users, but requires prompting from teacher and/or other riders;</p> <p>Student needs reminders to ride under control and to be more aware of others;</p> <p>Student needs almost constant reminders from the teacher and/or other riders about cycling etiquette;</p> <p>Student exhibits some of the behaviors listed in the <i>Bike Safety: Tips for Youth</i> handout, but not ones that enable her to ride on the road safely.</p>	<p>Student is unable to participate in the activity, due to unsafe riding behavior;</p> <p>Student is not aware of others;</p> <p>Student is able to comply with only a few of the behaviors listed in the <i>Bike Safety: Tips for Youth</i> handout, but not to the level needed to ride on the road, or possibly bike path.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Not recommended

Intermediate

- Fewer students can be in one group during the Squeeze Box activity if necessary.

Advanced

- More students can be in one group during each activity.
- Courses can be made slightly narrower or more lines added.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between cyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.



CLOSING ACTIVITY

Journal Writing

Timeframe

Beginner: 15 minutes
Intermediate: 10 minutes
Advanced: 10 minutes

Objectives

At the conclusion of this activity, the student will be able to:

1. List and describe key concepts from Unit 5 that illustrate a clear understanding of the need to know the rules of the road and bicycling etiquette, as measured by providing responses to questions in journals. (Cognitive)
2. Describe how they feel about their ability to ride safely on the road and/or on a multi-use path and their level of enjoyment of bicycling, as measured by providing responses to questions in journals. (Affective)

National Standards Standard 2
Standard 6

Equipment

- Journals or portfolios for each student
- Pencils
- *Rules of the Road Crossword Puzzle* (optional)

Teacher Overview This activity prompts students to think about what they have learned during the fifth unit by asking questions about rules of the road and bicycling etiquette and providing written responses in journals.

Preparation

1. Determine method for distributing, collecting and storing portfolios or journals before beginning this activity.
2. Modify the questions to reflect the actual activities completed by students.
3. Make appropriate number of copies of *Rules of the Road Crossword Puzzle* (optional)

Directions

1. Introduce this activity using the following prompt:
We have now completed Unit 5 – “Rules of the Road.” All of the skills learned in this unit will help you be safer and more skilled bicyclists when you are out riding – especially when riding on the roads or multi-use paths. Learning to safely manage intersections and maintain a high level of cycling etiquette will keep you and others safe and make it more enjoyable to ride.
2. Provide portfolios or journals for students to write in.
3. Choose a location where students can sit comfortably and complete the journal writing activity in class.

4. Use the following sample questions to prompt students' thinking about the content presented in this unit.

Q: What are five rules of the road you learned in Unit 5?

A: Any of the following:

- Obey traffic lights and signs when riding the bicycle on the road.
- Ride the bicycle facing traffic.
- When you hear a siren from an emergency vehicle, you must pull over to the side of the road on the right and stop to allow the emergency vehicle pass safely.
- Always use hand signals to indicate turning and stopping/slowng.
- The bicycle must have headlights and taillights when riding at night.
- Other responses may be accepted

Q: What are 3 rules for riding on trails, or multi-use paths you learned in Unit 5?

A: Any of the following:

- Always stay to the right.
- Pass only on the left and move back to the right when it is safe.
- When stopped, move off the trail so others can pass.
- Only use a small portion of the trail if riding in a group, so others may safely pass.
- Always stay on the trail and be respectful of private property.
- Clean up any litter/debris and *Leave No Trace* (for additional information on *Leave No Trace*, visit www.lnt.org).
- Vocalize all signals or warnings, either by voice or bell/horn, giving people time to act.
- Call out 'On your left' when passing.
- Always yield to other users who are slower.
- Always yield to riders / walkers / hikers coming uphill.
- Always be predictable and courteous.

5. Use the *Rules of the Road Crossword Puzzle* provided as an optional summative form of assessing student understanding. Simplify the puzzle as needed for younger students. Older beginner students could be expected to complete a more difficult crossword puzzle if the information was covered in class and/or students were provided reading material.

Assessment

1. Be thoughtful about assessing journal writing, particularly when asking open ended “opinion-type” questions. Not all students may enjoy bicycling and should be allowed to voice their opinions. To encourage honest answers, refrain from grading thoughts and opinions. However, this should not be an excuse for not learning the material.
2. Consider assessing writing skills and integrate literacy (spelling, use of correct grammar and complete sentences, etc.) in journal writing. Some teachers may want to specify length of answers for specific questions (e.g., answer must be at least two sentences).

Safety

None

Differentiating Instruction

All levels

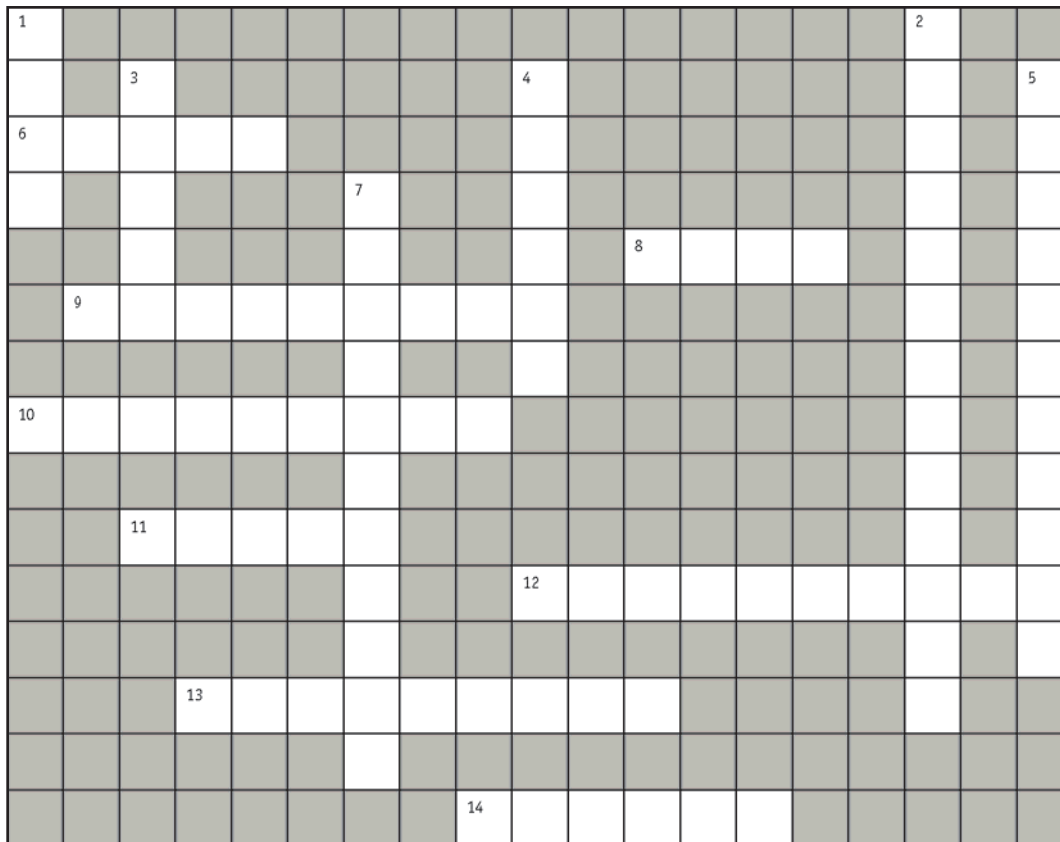
- Choose questions that are appropriate for the age and ability level of students.
- Some students may need to share their answers verbally with a teacher if they have difficulty writing.
- Some students may need the teacher or an aide to read the questions.

Best Practices

1. Complete this activity in classroom settings, health classes or science classes if cross-curricular units are planned or to maximize riding time in physical education class.
2. Assign the journal writing for Unit 5 as homework to maximize riding time in physical education class.

RULES OF THE ROAD CROSSWORD PUZZLE

Student _____ Date _____



ACROSS

7. The portion of the lane in which a bicyclist should ride.
9. What a bicyclist should do before signaling and moving over to make a left-hand turn.
10. Bicyclists need to follow a code of conduct or _____ when riding.
11. Bicyclists should be very _____ at all times, and particularly at intersections.
12. Just as on the roads, ride on the _____ side of a multi-use path.
13. Always call out _____ when passing someone on your bike.
14. Bicyclists should avoid using their _____ when riding in order to be safe.
15. When going straight through an intersection, move to the _____ of the lane and proceed through the intersection.

DOWN

1. Bicyclists should ride _____ and not against traffic.
3. This should always be performed prior to riding your bike.
4. When riding at night I need a _____ on my bike, so motorists can see me.
5. Always wear a proper fitting _____ when riding.
6. Bicyclists should _____, both verbally and nonverbally, with other bicyclists and motorists when riding.
8. Being _____ helps other bicyclists and motorists anticipate your next move.



CLOSURE ACTIVITY

Bicycling Etiquette Poster

Timeframe

Beginner: 15 minutes
Intermediate: 15 minutes
Advanced: 15 minutes

Objective

At the conclusion of the activity, the student will be able to:

1. Describe key concepts of bicycling etiquette, as measured by completion of a bicycling etiquette poster. (Cognitive)

National Standard Standard 2

Equipment

- Poster board, art paper or butcher paper
- Markers

Teacher Overview

This activity prompts students to think about what they have learned during the fifth unit by asking questions about rules of the road and bicycling etiquette and providing written responses in journals.

Preparation

Cut or use appropriate-sized paper for groups to create posters.

Directions

1. Introduce this activity using the following prompt:
We have now completed Unit 5 – “Rules of the Road.” All of the skills learned in this unit will help you be safer and more skilled bicyclists when you are out riding – especially when riding on the roads or multi-use paths. Learning to safely manage intersections and maintain a high level of cycling etiquette will keep you and others safe and make it more enjoyable to ride.
2. Divide students into small groups.
3. Give each group a piece of paper, marker and list of questions to be answered.
4. Ask each group to brainstorm responses to the questions and write ideas on their paper.

Q: Name three rules of the road?

A: Any of the following:

- Obey traffic lights and signs when riding the bicycle on the road.
- Ride the bicycle facing traffic.
- When you hear a siren from an emergency vehicle, you must pull over to the side of the road on the right and stop to allow the emergency vehicle pass safely.
- Always use hand signals to indicate turning and stopping/slowing.
- The bicycle must have headlights and taillights when riding at night.
- Other responses may be accepted

Q: Name 3 rules for riding on trails, or multi-use paths?

A: Any of the following:

- Always stay to the right.
- Pass only on the left and move back to the right when it is safe.
- When stopped, move off the trail so others can pass.
- Only use a small portion of the trail if riding in a group, so others may safely pass.
- Always stay on the trail and be respectful of private property.
- Clean up any litter/debris and *Leave No Trace* (for additional information on Leave No Trace, visit www.lnt.org).
- Vocalize all signals or warnings, either by voice or bell/horn, giving people time to act.
- Call out 'On your left' when passing.
- Always yield to other users who are slower.
- Always yield to riders / walkers / hikers coming uphill.
- Always be predictable and courteous.

5. Include pictures that depict each of the general rules.
6. Include information about safe places to ride in the local area including local trail and/or multi-use paths.
7. Include information on safe routes to school.
8. Display posters around the gym.

Assessment

Completion of bicycling etiquette poster

Safety

None

Differentiating Instruction

All levels

- The responses will depend on the age and experience level of the students.

Best Practices

1. Complete this activity when weather prevents riding outside.
2. Display posters around the gym during the bicycling unit to reinforce learning.
3. This activity could be expanded to an art project or a poster contest.



UNIT 6

Bicycle Maintenance

OBJECTIVES

At the conclusion of this unit the student will be able to:

1. Describe key concepts of bicycle maintenance, as measured by completion of the *Bicycle Maintenance* worksheet. (Cognitive)
2. Demonstrate exceptional or reliable performance of the repair of a fallen chain as measured by the Fallen Chain rubric. (Psychomotor)
3. Demonstrate exceptional or reliable performance when changing a flat tire, as measured by the flat tire rubric. (Psychomotor)
4. Demonstrate exceptional or reliable performance when adjusting brakes, as measured by the brake adjustment rubric. (Psychomotor)
5. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
6. List and describe key concepts from Unit 6 that illustrate a clear understanding of basic bicycle maintenance, as measured by providing responses to questions in journals. (Cognitive)

NATIONAL STANDARDS FOR K-12 PHYSICAL EDUCATION

Standard 1

The physically literate individual demonstrates competency in a variety of motor skills and movement patterns..

Standard 2

The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3

The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4

The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5

The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

KEY VOCABULARY

Rim Tape: A piece of rubber, cloth or plastic tape that protects the tube from puncture, especially from sharp objects such as spoke nipples.

Tire Bead: The hard edge on the actual tire that fits into the rim of the wheel.

ACTIVITIES

Each unit should include three types of activities: introduction, skill-based with assessments and cool-down/closure. In some cases, more than one activity option is offered for the introduction and closure; choose the appropriate activities that fit into your allotted class time when developing your lesson plans. If class time is too short to allow for all three types of activities, focus your lesson on the skill-based activities.

Introduction: The following activity can be used to introduce this unit of learning.

- Walk & Share

Skill-Based with Assessments: Each skill-based activity is associated with an assessment to measure student knowledge and application of the identified skill. Depending on the amount of class time available and the skill level of students, more than one of the following skill-based activities may be completed during one class.

- Fallen Chain Repair
- Fixing A Flat Tire
- Brake Adjustment (intermediate and advanced only)

Closure: The following activity can be used to conclude this unit of learning. If desired, this activity can be assigned as homework.

- Journal Writing

EQUIPMENT NEEDED

- Bicycles
- Bicycle tire levers
- Bicycle air pump(s) with pressure gauge
- Bicycle tire tubes
- Bicycle work stand (optional)
- Screwdriver
- Pencils
- *Bicycle Maintenance* worksheet
- *Fixing A Flat Tire* worksheet

CROSS-CURRICULAR ACTIVITIES

Language Arts

- Journal writing



INTRODUCTION ACTIVITY

Walk & Share / Bicycle Maintenance

Timeframe

Beginner: 5-7 minutes

Intermediate: 5-7 minutes

Advanced: 5-7 minutes

Objective

At the conclusion of this activity the student will be able to:

1. Describe key concepts of bicycle maintenance, as measured by completion of the *Bicycle Maintenance* worksheet. (Cognitive)

National Standards

Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

Equipment

- *Bicycle Maintenance* worksheet
- Pencils

Teacher Overview

This activity prompts students to begin thinking about how bicycle maintenance relates to bicycle safety. Walking while discussing the questions will initiate peer discussion about bicycle maintenance and keep students moving.

Preparation

1. Make appropriate number of copies of the *Bicycle Maintenance* worksheet

Directions

1. Introduce this activity using the following prompt:
Today, we are going to begin to talk about how keeping your bicycle in good working condition is important to being safe.
2. Divide students into groups of two or three.
3. Ask students to walk the perimeter of the gym while answering the questions on the *Bicycle Maintenance* worksheet. Instruct students they may need to stop to write a quick answer, but should continue moving as much as possible or have them write the answers when the walking is completed.
4. Instruct students to stop when the whistle blows and be prepared to share something they discussed with their partner(s).

Assessment

1. Successful completion of the *Bicycle Maintenance* worksheet

Safety

1. Do not let students run or walk too quickly if carrying pencils.

Differentiating Instruction

Intermediate and Advanced

- Set up lanes that students need to travel in.
- Include stop signs and intersections.

Best Practices

1. Complete this activity when weather prevents riding outside.

BICYCLE MAINTENANCE WORKSHEET



Student _____ Date _____

Directions: Answer the questions below with your partner.

1. What are the most common parts that break on your bicycle?

2. What should you do if something on your bicycle breaks?

3. What can happen if you ride a bicycle that is mechanically unsound?

BICYCLE MAINTENANCE WORKSHEET ANSWER KEY



1. What are the most common parts that break on your bicycle?

Tires

Chain

Brakes

Other responses will be accepted

2. What should you do if something on your bicycle breaks?

Stop riding and repair the bicycle.

If you check your bicycle before each ride using the ABC Quick Check, this may help identify items that should be repaired before you begin riding.

3. What can happen if you ride a bicycle that is mechanically unsound?

You could be injured

You could injure someone else

You could damage your bicycle further



SKILL-BASED ACTIVITY

Fallen Chain Repair

- Timeframe** **Beginner:** 20-25 minutes
Intermediate: 15 minutes
Advanced: 10 minutes
- Objectives** At the conclusion of this activity the student will be able to:
1. Demonstrate exceptional or reliable performance of the repair of a fallen chain as measured by the Fallen Chain rubric. (Psychomotor)
 2. Demonstrates exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
- National Standards** Standard 1
Standard 2
Standard 4
- Equipment** • Bicycles
• Screwdriver
- Teacher Overview** This activity teaches students how to repair a fallen bicycle chain. There are two versions to repairing a bicycle chain.
- Preparation** 1. Using the screwdriver, lift the chain off of the front chainring toward the bicycle frame.
2. Practice both methods of correcting a fallen bicycle chain.
 3. Set up bicycles with the chains off the front chain rings prior to class.
- Direction** 1. Teacher should have gloves and rags handy.
2. Introduce this activity using the following prompt:
At some point when you are riding a bicycle the chain might fall off of your bicycle. This most often happens on the front chainrings. Because the chain is the part of the bicycle that provides power, a fallen chain will prevent the bicycle from working. Today, we will be learning two different methods to repair a fallen chain.
 2. Use the following sample questions to prompt student's thinking about the content in this activity.
- Q: Have you ever had your chain fall off your bicycle?**
A: Responses of yes and no will vary with each class

Q: What did you do?**A:** Any of the following are acceptable:

- Used my hands to put the chain back on
- Tried but couldn't put the chain back on
- Had someone else fix the chain
- Other responses may be accepted

3. Instruct students to gather around the demonstration bicycle.
4. Explain and demonstrate the steps to method one to students using a demonstration bicycle with a fallen chain reinforcing the following points. Riders should:
 - Push the bottom portion of the rear derailleur forward to give the chain slack.
 - Put the chain back on whichever gear it has fallen off.
 - Release the bottom portion of the rear derailleur to let chain tighten.
 - Hand pump the pedal to let chain slip into gear while lifting the rear tire off the ground.
5. Instruct students to find their bicycle and put the chain on using method one.
6. Instruct students to gather around the demonstration bicycle.
7. Explain and demonstrate the steps to method two to students using a demonstration bicycle with a fallen chain reinforcing the following points. Riders should:
 - Determine if the chain has fallen off toward the frame or the crank/pedal.
 - Shift to the gear furthest away from the where the chain has fallen. (i.e., if the chain has fallen toward the bicycle frame, shift to the largest chainring).
 - Lift the rear tire off the ground and pedal the bicycle. This will allow the derailleur to do its job by picking up the chain and putting it on the appropriate gear.



Squeeze derailleur to loosen chain

Assessment

1. Assess the performance of repairing the fallen bicycle chain using the following rubric.

PERFORMANCE RUBRIC: REPAIRING A FALLEN BICYCLE CHAIN 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
Student can correctly fix a fallen chain using both methods, without assistance from a teacher or aide; As a result, the bike can be ridden safely.	Student can correctly fix a fallen chain using one method, without assistance from a teacher or aide, but requires assistance from a teacher or aide to use the other method; As a result, the bike can be ridden safely.	Student needs help from a teacher or aide to use either method for fixing a fallen chain; Student does not understand the process, but is unable to work through it on his own; The bike could not be ridden without help from a teacher/aide.	Student is unable to fix a fallen chain using either method, even with help from a teacher/aide; Student does not seem to understand the process at all.

2. Assess the social behavior of the student during the activity using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety

Inspect all chains to ensure they are properly adjusted at the end of this lesson before allowing students to ride bicycles.

Differentiating Instruction

Adapted and Beginners

- Use an aide or a peer to help with this activity, as needed.

Best Practice

Teach all bicycle maintenance lessons to intermediate, advanced and beginning riders of a higher cognitive level.



SKILL-BASED ACTIVITY

Fixing a Flat Tire

Timeframe

Beginner: 45-60 minutes
Intermediate: 40-50 minutes
Advanced: 30-40 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance when changing a flat tire, as measured by the flat tire rubric. (Psychomotor)
2. Demonstrates exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 4

Equipment

- Bicycles
- Bicycle tire levers
- Bicycle air pump(s) with pressure gauge
- Bicycle tire tubes
- *Fixing A Flat Tire* worksheet
- Pencils
- Bicycle work stand (optional)

Teacher Overview This activity teaches students how to fix a flat tire on the front wheel.

Preparation

1. Determine if students will work in small groups of 2-3 or individually.
2. Select the appropriate number of bicycles.
3. Provide a set of bicycle levers, a bicycle tube and bicycle pump for each bicycle.
4. Practice changing a flat tire before demonstrating to students.
5. Make an appropriate number of copies of the *Fixing a Flat Tire* worksheet.

Directions

1. Introduce this activity using the following prompt:

It is important to have the appropriate amount of air in the tires to ride safely and efficiently. Flat tires can happen just about anywhere so it is important to know how to fix a flat tire. Today, we are going to practice the necessary steps to fixing a flat tire on the front wheel.

2. Use the following sample questions to prompt students' thinking about the content in this activity.

Q: What are some things that cause flat tires?

A: Any of the following are acceptable:

- Glass
- Nails
- Pothole
- Tire inflation too low
- Other responses may be accepted

Q: Have you ever had a flat tire, either on your bike or car?


A: Responses will vary with each class

Q: How was the tire repaired?

A: Any of the following are acceptable:

- Patched the tube
- Replaced the tube

3. Instruct students to gather around the demonstration bicycle.
4. Explain and demonstrate the steps to remove the wheel from the bicycle reinforcing the following points. Riders should:
- Turn the bike upside down, resting on the handlebars and saddle. (Optional: A bicycle stand can be used instead of turning the bicycle upside down.)
 - Release the front brake quick release (refer to the Brake Adjustment activity on page #313).
 - Remove wheel from fork.



The correct way to use the wheel quick release is to swing the lever from the closed position to the open position. Then use the knob to loosen the quick release.

5. Explain and demonstrate the steps to remove the tube from the tire reinforcing the following points. Riders should:
- Deflate the tire.

Note the difference between Schrader and Presta valves. Presta valves only allow air to be expelled after unscrewing and pushing down gently on the top of the unscrewed valve. Use the hooked end of a tire lever to deflate a tube with a Schrader valve.

- Loosen the tire from the rim by squeezing along the entire circumference of the tire.
- Insert the flat side of the tire lever between the rim and tire, underneath the tire bead.
- Move the bead to the outside of the rim by leveraging the tire lever against the rim of the wheel. Once the bead is outside of the rim, slide the tire lever all the way around the rim to completely remove one side of the bead.

Changing a Bicycle Tire

New tires may be very stiff and require the use of two tire levers. Attach the hooked end to a spoke to hold the tire lever in place, keeping the tire bead on the outside of the rim. Using a second tire lever, insert the flat side of the tire lever under the rim of the tire, slide underneath the tire bead, moving around the rim to completely remove one side of the bead.

- Only remove one side of the tire off the rim. Do not take the whole tire off the rim.
- Pull the tube out of the tire by grabbing onto the valve stem and gently guiding the tube from the tire.

6. Explain and demonstrate the steps to inspect the tube, tire and rim tape to identify where the hole is on the tube reinforcing the following points. Riders should:
 - Lay the tube on the outside of the tire to check for any object that may have caused the flat. It can be difficult to find small holes; inflating and then spraying the tube with water can expose the hole. If the hole is small, a patch kit can be used instead of using a new tube.
 - Inspect the tire for damage and debris (sharp objects). Run fingers around the inside of the tire to check and remove debris that may have caused the flat (you may use plastic gloves or a rag to check for sharp debris). Pull out any sharp object (glass, thorn, nail, screw). It may be necessary to complete this step by first taking the entire tire off the wheel, instead of leaving one side on the wheel.
 - Look for any larger holes in the tire, in which the tube may bulge through. If there are large holes or slits in the tire, the tire should be replaced.
 - Inspect the rim tape to make sure it is covering all of the spoke nipples. If the rim tape and/or spoke nipple is damaged, see a professional bicycle mechanic.
7. Explain and demonstrate the steps to install a new tube in the tire and inflate reinforcing the following points. Riders should:
 - Inflate the new tube slightly, prior to putting tube in tire.
 - Put the valve stem in the wheel (take care that it is in fully and correctly); then put the rest of the tube in the tire.
 - Work the tire bead back behind the lip of the rim, so the tire is perpendicular to the rim.
 - Use the flat end of the tire lever to help insert the bead, being careful not to pinch the tube between the tire and the rim. Again it may be necessary to use two tire levers, as it was to take the tire off the rim.
 - Inspect the tire bead and tube all the way around one side of the tire, beginning at the valve stem. The tire bead should be seated correctly on the rim and the tube should not be pinched by the bead. Then inspect the other side. A pinched tube will result in another flat.
 - Inflate tire to the air pressure indicated on the tire wall.

8. Explain and demonstrate the steps to reinstall the wheel on the bicycle reinforcing the following points. Riders should:
 - Replace the wheel onto the bicycle fork.
 - Ensure the wheel is rotating in the correct direction, if the tire is directional, when attaching the wheel to the bicycle.
 - Make sure the quick release is on the left side of the bicycle (opposite the derailleurs) and that the wheel is evenly spaced between the forks.
 - Close the quick release by changing the lever's position from fully open to fully closed.
 - When the lever is pointing straight out (sideways or perpendicular) from the wheel there should be some resistance. If no resistance is felt at this point, tighten the clamping force (which is the knob opposite the quick release lever). If there is resistance before this point, loosen the clamping force.
 - Spin the wheel to ensure that the tire is positioned correctly and does not rub on the brakes. Close the brakes. If the wheel rubs on the brakes, make minor adjustments to the wheel quick release and possibly the brakes until the wheel no longer rubs. (refer to the Brake Adjustment activity on page #313)
 - Ensure that the wheel is tight in the fork prior to riding, or there will be an increased risk of the wheel falling off during a ride.
9. Divide students into pairs to practice changing a flat tire using the *Fixing a Flat Tire* worksheet.

Assessment

1. Assess the performance of repairing a flat tire using the following rubric.

PERFORMANCE RUBRIC: REPAIRING A FLAT TIRE 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is able to fix a flat tire without assistance from a teacher/aide;</p> <p>Student knows the steps and works through them correctly and efficiently;</p> <p>As a result, the bike can be ridden safely.</p>	<p>Student is able to work through nearly each step for fixing a flat tire, without assistance from a teacher/aide;</p> <p>Student may require help, but it is minimal, and can fix a flat tire with help from a worksheet;</p> <p>Student knows the steps and works through the majority of the steps correctly and efficiently;</p> <p>As a result, the bike can be ridden safely</p>	<p>Student needs help from a teacher or aide to fix a flat tire;</p> <p>Student does not understand the process and may be able to complete a few steps on her own, but needs a significant amount of help;</p> <p>The bike could not be ridden without help from a teacher/aide.</p>	<p>Student is unable to fix a flat tire, even with help from a teacher/aide;</p> <p>Student does not seem to understand the process at all.</p>

2. Assess the social behavior of the student during the activity using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, & equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, & equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, & equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety

Inspect all tires to ensure they are properly attached at the end of this lesson before allowing students to ride bicycles.

Differentiating Instruction**Adapted and Beginner**

- An aide or a peer can help with this activity.
- This may be performed by students who are older and at a higher cognitive level, even though they may be beginning riders.

Best Practice

Teach all bicycle maintenance lessons to intermediate, advanced and beginning riders of a higher cognitive level.

FIXING A BICYCLE FLAT TIRE WORKSHEET



Student _____ Date _____

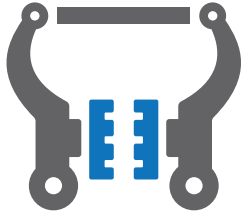
Directions: Partner will observe the student completing each activity necessary to repair a flat tire. Insert a “✓” if it is completed correctly. Insert a (—) if it is completed incorrectly. Students should continue to repeat the activity until each segment of the task is completed correctly.

Activity	Attempt #1	Attempt #2	Attempt #3
Turn the bicycle upside down and release the front brake quick release:			
• Using one hand, squeeze the brake arms together to loosen the tension on the brake cable.			
• Using the other hand, grab the brake cable noodle and pull the brake cable out of the bracket.			
Release the front wheel quick release:			
• The correct way to use the wheel quick release is to swing the lever from the closed position to the open position.			
• Then use the knob to loosen the clamping force. The wheel can now be removed from the fork.			
Deflate (if not already deflated) the tire using the bicycle tire levers:			
• Remove the valve cap.			
• (Schrader) Using the hooked end of the tire lever let the air out by pressing down on valve.			
• (Presta) Unscrew the top; push down on top to deflate.			
• Completely deflate the tire.			

Continued >

Activity	Attempt #1	Attempt #2	Attempt #3
Remove the tire and tube with the bicycle tire levers:			
<ul style="list-style-type: none"> • Make sure the tire is totally deflated. 			
<ul style="list-style-type: none"> • Squeeze all around the tire to loosen it from the rim. 			
<ul style="list-style-type: none"> • Starting on the side of the tire opposite the valve, insert the flat side of the tire lever between the rim and tire - underneath the bead of the tire - moving the bead to the outside of the rim. 			
<ul style="list-style-type: none"> • Slide the tire lever underneath the tire bead the rest of the way around the rim; to completely remove one side of the bead. 			
<ul style="list-style-type: none"> • New tires may be very stiff and require the use of two tire levers. Once the flat side of the tire lever is inserted under the rim of the tire, attach the hooked end to a spoke to hold the tire lever in place, keeping the tire bead on the outside of the rim. Use a second tire lever to slide underneath the tire bead the rest of the way around the rim; to completely remove one side of the bead. 			
<ul style="list-style-type: none"> • Do not take the whole tire off the rim. Only remove one side, unless a closer inspection is necessary. 			
<ul style="list-style-type: none"> • Gently pull the tube out of the tire by grabbing onto the valve stem. 			
Inspect the tire for damage and debris (sharp objects):			
<ul style="list-style-type: none"> • Remove the tube, slightly inflate and find the hole. 			
<ul style="list-style-type: none"> • Note where the hole is on the tube and lay the tube on the outside of the tire, to check for any object that may have caused the flat. 			
<ul style="list-style-type: none"> • Run fingers around the inside of the tire to check and remove debris that caused the flat (you may use plastic gloves or a rag to check for sharp debris). Remove debris. 			
<ul style="list-style-type: none"> • Inspect the rim tape to make sure it is covering all of the spoke nipples. If rim tape and/or spoke nipple are damaged, see a professional bike mechanic. 			
Install a new tube in the tire:			
<ul style="list-style-type: none"> • Slightly inflate the new tube. 			
<ul style="list-style-type: none"> • Begin by putting the valve stem in the wheel (take care that it is in fully and correctly). Then put the rest of the tube in the tire. 			
<ul style="list-style-type: none"> • Work the tire bead back behind the lip of the rim, so that the tire is perpendicular to the rim. 			
<ul style="list-style-type: none"> • Use the flat end of the tire lever to help insert the bead, being careful not to pinch the tube between the tire and the rim. Again it may be necessary to use two tire levers. 			

Activity	Attempt #1	Attempt #2	Attempt #3
Inflate the tire to the air pressure indicated on the tire wall			
Reinstall the wheel on the bicycle:			
<ul style="list-style-type: none"> When attaching the wheel to the bicycle, make sure the wheel is rotating in the correct direction if the tire is directional. 			
<ul style="list-style-type: none"> Replace the wheel onto the bicycle fork. Make sure the quick release is on the left side of the bicycle (opposite the derailleurs) and that the wheel is evenly spaced between the forks. 			
Close the wheel quick release:			
<ul style="list-style-type: none"> To close the quick release, swing the lever from full open to full closed. 			
<ul style="list-style-type: none"> When the lever is pointing straight out (sideways or perpendicular) from the wheel there should be some resistance. 			
<ul style="list-style-type: none"> If no resistance is felt at this point, tighten the clamping force (which is the knob opposite the quick release lever.) 			
<ul style="list-style-type: none"> If there is resistance before this point, loosen the clamping force. Ensure that the wheel is tight in the fork prior to riding, or there will be an increased risk of the wheel falling off during a ride. 			
<ul style="list-style-type: none"> Spin the wheel to ensure that the tire is positioned correctly and does not rub on the brakes. Close the brakes. If the wheel rubs on the brakes, make minor adjustments to the wheel quick release and possibly the brakes until the wheel no longer rubs. 			
Close the brake quick release:			
<ul style="list-style-type: none"> Using one hand, squeeze the brake arms together. 			
<ul style="list-style-type: none"> Using the other hand, grab the brake cable noodle and place the brake cable in the groove of the bracket. 			
<ul style="list-style-type: none"> Spin the wheel to ensure that the tire is positioned correctly and does not rub on the brakes. 			
<ul style="list-style-type: none"> If the wheel rubs on the brakes, adjust the wheel and/or brake alignment. 			



SKILL-BASED ACTIVITY

Brake Adjustment

Timeframe	Beginner: N/A Intermediate: 40 minutes Advanced: 30 minutes
Objectives	At the conclusion of this activity the student will be able to: <ol style="list-style-type: none">1. Demonstrate exceptional or reliable performance when adjusting brakes, as measured by the brake adjustment rubric. (Psychomotor)2. Demonstrates exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
National Standards	Standard 1 Standard 2 Standard 4
Equipment	<ul style="list-style-type: none">• Bicycles• Screwdriver
Teacher Overview	This activity teaches students how to make minor brake adjustments when identified during the ABC Quick Check. Ensuring that brakes are working is an important part of bicycle maintenance. This activity is not recommended for beginner or adapted riders.
Preparation	<ol style="list-style-type: none">1. Determine if students will work in small groups of 2-3 or individually.2. Select the appropriate number of bicycles.3. Practice disengaging the brakes using the brake quick release and adjusting brakes before demonstrating to students.
Directions	<ol style="list-style-type: none">1. Introduce this activity using the following prompt: <i>In Unit 2, we talked about the importance of being able to appropriately use brakes to stop a bicycle. This requires that brakes are working properly. The ABC Quick Check is a good way in which to check on a regular basis if a bicycle's brakes are in good working condition. Today, we are going to learn how to make minor adjustments to a bicycle's brakes.</i>2. Use the following sample questions to prompt students' thinking about the content in this activity. Q: How do you stop your bicycle? A: Bicycle brakes

Q: How do bicycle brakes work?

A: If a bicycle has coaster brakes, the rider will stop the bicycle by pedaling backward. If the bicycle has rim or disc brakes, the rider will stop the bicycle by squeezing the brake levers on the handlebar. For rim brakes, this causes brake pads to close on the wheel's rim to stop the wheel from turning. For disc brakes, this causes pads to close on a disc that is attached to the wheel hub.

**Disc Brakes****Rim Brakes**

BMX Bikes. BMX bicycles may have coaster brakes and also a rim or disc brake on the rear wheel.

3. Instruct students to gather around the demonstration bicycle.
4. Remind students that if the brake lever comes less than about $\frac{3}{4}$ inch to the handlebar (**Cue: knuckle to knuckle**) when squeezed, the brake cable is too loose and needs to be tightened. If the brake lever doesn't move much when squeezed, the brake cable is too tight and needs to be loosened.
5. Explain and demonstrate the steps to disengage the front brake using the brake quick release reinforcing the following points. Riders should:
 - Use one hand to squeeze the brake arms together to loosen the tension on the brake cable.
 - Grab the brake cable noodle and pull the brake cable out of the bracket, using the other hand.
6. Explain and demonstrate the steps to tighten and loosen the front brake reinforcing the following points. Riders should:
 - Loosen the lock nut from the barrel; screw the barrel away from the brake housing, toward the headset; and then tighten the lock nut to tighten the brake cable.
 - Test the front brake lever to see the resulting changes.
 - Loosen the lock nut from the barrel; screw the barrel toward the brake housing, away from the head set; tighten the lock nut.
 - Test the front brake lever to see the resulting changes.
7. Explain and demonstrate the steps for further adjustment of rim brakes if the brake pads continue to touch the rim of the bicycle wheel, when the brakes are not engaged, after minor adjustments to the brake cables reinforcing the following points. Riders should:
 - Make adjustments to the brake arms. This adjustment will take practice to get it right.
 - Use a screwdriver to turn the screws on the brake arm, near the brake pad in small increments.

- Continuously apply brakes and watch brake tension change as the screw is adjusted.
 - Turn the screw clockwise to put more tension on the spring on the side that is being tightened and to move the brake pad on opposite side closer to the rim.
 - Turn the screw counterclockwise to put less tension on the spring on the side that is being tightened and move the brake pad on the opposite side away from the rim.
 - Test to ensure all parts move freely. Both arms should move freely and brake pads should not touch rim as the wheel turns. If more tension is needed, the tension springs, located behind each brake arm, may be moved out of their retaining slots and bent by hand to increase tension.
8. Explain and demonstrate the steps to re-engage the front brake reinforcing the following points. Riders should:
- Use one hand to squeeze the brake arms together
 - Use the other hand to grab the brake cable noodle and place the brake cable in the groove of the bracket.

Assessment

1. Assess the performance of adjusting the brakes using the following rubric.

PERFORMANCE RUBRIC: ADJUSTING BRAKES 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is able to make adjustments to the brakes so that the bike can be ridden safely;</p> <p>Student is able to disengage and re-engage rim brakes, and make minor adjustments to brake cables, so that the bike is safe to ride;</p> <p>Student can easily differentiate between types of brakes.</p>	<p>Student is able to make adjustments to the brakes so that the bike can be ridden safely, but may require a little help from a teacher/aide or worksheet;</p> <p>Student is able to disengage and re-engage rim brakes, and make minor adjustments to brake cables so that the bike is safe to ride;</p> <p>Student can easily differentiate between types of brakes.</p>	<p>Student needs help from a teacher or aide while working on brake adjustments;</p> <p>Student does not understand the process and may be able to complete a few steps on his own, but needs a significant amount of help otherwise;</p> <p>The bike could not be safely ridden without help from a teacher/aide.</p>	<p>Student is unable to make brake adjustments, even with help from a teacher/aide;</p> <p>Student does not seem to understand the process at all.</p>

2. Assess the social behavior of the student during the activity using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety Inspect all brakes to ensure they are properly adjusted and re-engaged at the end of this lesson before allowing students to ride bicycles.

Differentiating Instruction **Adapted and Beginner**

- May be performed by students who are older and at a higher cognitive level, even though they may be beginning riders.

Best Practice A trained, professional bicycle mechanic should work on major bicycle repairs.



CLOSING ACTIVITY

Journal Writing

- Time Fame** **Beginner:** 15 minutes
Intermediate: 10 minutes
Advanced: 10 minutes
- Objective** At the conclusion of this activity the student will be able to:
1. List and describe key concepts from Unit 6 that illustrate a clear understanding of basic bicycle maintenance, as measured by providing responses to questions in journals. (Cognitive)
- National Standards** Standard 2
Standard 5
- Equipment** • Journals or portfolios for each student
• Pencils
- Teacher Overview** This activity prompts students to think about what they have learned during the sixth unit by asking questions about bicycle maintenance and providing written responses in journals.
- Preparation** 1. Determine method for distributing, collecting and storing portfolios or journals before beginning this activity.
2. Modify the questions to reflect the actual activities completed by students.
- Directions** 1. Introduce this activity using the following prompt:
We have now completed Unit 6 – “Bicycle Maintenance.” All of the skills learned in this unit will help you to ensure your bicycle is in good working condition.
2. Provide portfolios or journals for students to write in.
 3. Choose a location where students can sit comfortably and complete the journal writing activity in class.
 4. Use the following sample questions to prompt students’ thinking about the content presented in this unit.

Q: Describe the 2 methods for fixing a fallen chain.

A: Method one:

- With your hand, push the bottom portion of the rear derailleur forward to give the chain slack and put chain back on whichever gear it has fallen off.
- Release the bottom portion of the rear derailleur to let chain tighten.
- Hand pump pedal to let chain slip into gear.

Method two:

- Determine if the chain has fallen off toward the frame or the crank/pedal.
- Shift to the gear furthest away from where the chain has fallen.
- Pedal the bike and allow the derailleur to do its job by picking up the chain and putting it on the appropriate gear.

Q: Which method of fixing a fallen chain did you prefer and why?

A: Responses will vary.

Q: Describe how to adjust the brakes if the cable is too loose.

A: Disengage the brake using the brake quick release:

- Using one hand, squeeze the brake arms together to loosen the tension on the brake cable.
- Using the other hand, grab the brake cable noodle and pull the brake cable out of the bracket.

Adjust the brake:

- Loosen the lock nut from the barrel.
- Screw the barrel away from the brake housing, toward the headset.
- Tighten the lock nut.

Q: Put the following steps to change a flat tire in the correct order:

- Inspect the tire for damage and debris.**
- Close the wheel quick release.**
- Install new tube.**
- Install the wheel on the bicycle.**
- Deflate the tire using the bicycle tire levers.**
- Remove one side of the tire from the rim using the bicycle tire levers and remove the tube from the tire.**
- Release the front brake quick release and turn the bicycle upside down.**
- Inflate the tire to the recommended air pressure.**
- Release the front wheel quick release and remove the wheel from the fork.**
- Close the brake quick release.**

A:

1. Release the front brake quick release and turn the bicycle upside down.
2. Release the front wheel quick release and remove the wheel from the fork.
3. Deflate the tire using the bicycle tire levers.
4. Remove one side of the tire from the rim using the bicycle tire levers and remove the tube from the tire.
5. Inspect the tire for damage and debris.
6. Install new tube.
7. Inflate the tire to the recommended air pressure.
8. Install the wheel on the bicycle.
9. Close the wheel quick release.
10. Close the brake quick release.

Assessment

1. Be thoughtful about assessing journal writing, particularly when asking open ended “opinion-type” questions. Not all students may enjoy bicycling and should be allowed to voice their opinions. To encourage honest answers, refrain from grading thoughts and opinions. However, this should not be an excuse for not learning the material.
2. Consider assessing writing skills and integrate literacy (spelling, use of correct grammar and complete sentences, etc.) in journal writing. Some teachers may want to specify length of answers for specific questions (e.g., answer must be at least two sentences).

Safety

None

Differentiating Instruction

All levels

- Choose questions that are appropriate for the age and ability level of students.
- Some students may need to share their answers verbally with a teacher if they have difficulty writing.
- Some students may need the teacher or an aide to read the questions.

Best Practices

1. Complete this activity in classroom settings, health classes or science classes if cross-curricular units are planned or to maximize riding time in physical education class.
2. Assign the journal writing for Unit 6 as homework to maximize riding time in physical education class.

CYCLING CURRICULUM

ESSENTIAL KNOWLEDGE PRE-TEST

Student _____ Date _____

Classroom Teacher _____ File color _____ # _____

Directions: Please answer the following questions to the best of your ability.

1. Prior to riding your bike you should do an _____, which is a way to check what?
2. Describe how you would go about checking each item in the answer to question 1.
3. Describe how you know your helmet is fitted correctly.
4. Describe how to correctly fit the seat height of your bike, and the rule about seat tube.
5. Explain why each of the following basic bicycle handling skills is so important to riding safely.
 - a. Balance
 - b. Controlled braking
 - c. Straight-line riding
 - d. Ready Position. Explain the body position for this skill.
 - e. Scanning. Explain how scanning is done safely.
 - f. Signaling. Explain the correct signal for a right and a left hand turn, and slowing/stopping.

6. The Rock Dodge is an advanced cycling skill that is useful to all cyclists. Why is the Rock Dodge so useful and how is it performed?
7. A bicycle is a vehicle when it is on the road. True False
8. I should obey traffic lights when riding my bicycle on the road. True False
9. I should ride my bicycle facing traffic. True False
10. I can keep riding my bicycle when I hear a siren from an emergency vehicle. True False
11. I should always signal with my hand when making a turn or stopping, while riding my bicycle. True False
12. I only need to look straight ahead when riding my bicycle. True False
13. I should always ride as fast as I can when I am riding my bicycle on the road. True False
14. I should have a light on my bicycle if I am riding at night. True False
15. List and explain at least five behaviors of cyclists who use bike paths or trails.

CYCLING CURRICULUM

ESSENTIAL KNOWLEDGE PRE-TEST

ANSWER KEY

Student _____ Date _____

Classroom Teacher _____ File color _____ # _____

1. Prior to riding your bike you should do an _____, which is a way to check what?

ABC Quick Check; this checks if your bike is safe to ride.

2. Please explain how you would go about checking each item in the answer to question 1.

A = Air: Check air pressure by pressing down with heel of hand on each tire. Tires should be 'hard as a rock.'

B = Brakes: Check both front and rear brakes by moving bike forward and using each brake separately. The brake should stop the bike. The rule of knuckle to knuckle applies here; there should be at least knuckle to knuckle space as the brake lever is pressed.

C = Chain/Crankset: Make sure the chain is in good working condition, is on a chainring and cog, and the crankset is tight.

Quick = Quick releases: All quick releases (seat and wheels) should be tight and in the closed position.

Check: Go for a quick ride to check all moving parts, including comfort.

3. Please explain how you know your helmet is fitted correctly.

The helmet: Is sitting level on the head;

Is snug on the head (no more than 2 fingers between eyebrows and helmet);

Does not rock n roll, sideways or front/back;

Straps form a V on either side of the ears;

There are no more than 2 fingers between the helmet strap and chin.

4. Please explain how to correctly fit the seat height of your bike, and the rule about seat tube.

Have the rider sit on the seat with one foot at 12 o'clock and the other at 6 o'clock. The knee of the leg at the 6 o'clock position should have a slight bend; it should not be straight. If there is too much knee bend, raise the saddle. The rule about the seat tube is that there should be at least 3" of seat tube in the seat post.

5. Please explain why each of the following basic bicycle handling skills is so important to riding safely.

a. Balance:

One must have good balance to ride on two wheels and ride slowly through obstacles.

b. Controlled braking:

A cyclist must know which brake controls which wheel and know how to stop under control, so as not to lose control or go flying over the handlebars.

- c. Straight-line riding:
Cyclists must ride in a predictable manner, and a straight line is predictable in most cases. And, if riding in a group, a cyclist must be able to safely maintain position and a straight line for the other riders.
- d. Ready Position. Please explain the body position for this position.
This position is helpful when going over obstacles, such as: railroad tracks, a rock or branch.
The position is seat off the bike, center of gravity over back tire, feet at 3 and 9 o'clock.
- e. Scanning: Please explain how scanning is done safely.
Scanning helps a rider know what is happening around, and particularly behind them, such as oncoming cars/trucks. To safely scan a rider must be able to look over their shoulder and actually see what's coming from behind, and do so without swerving.
- f. Signaling: Please explain the correct signal for a right and a left hand turn, and slowing/stopping.
Signaling communicates your intentions to other cyclists and motorists.
Right-hand turn: Signal with left arm/hand, with arm out to side (parallel to ground), elbow bent with hand up.
Left-hand turn: Signal with left arm/hand straight out to side
Slowing/stopping: Signal with left arm/hand, with arm out to side, elbow bent with hand pointing down and palm open.
6. The Rock Dodge is an advanced cycling skill that is useful to all cyclists. Why is the Rock Dodge so useful and how is it performed?
The Rock Dodge helps riders avoid obstacles they might ride over with their front tire. The Rock Dodge also allows the rider to avoid an obstacle within a small space, such as on the side of a road. To perform the Rock Dodge do the following:
 - **Just before the cyclist gets to the obstacle, turn handlebars quickly so the wheel goes around the obstacle;**
 - **Steer the bicycle to the other direction quickly;**
 - **This maneuver should not result in a large, sweeping turn;**
 - **Perform this skill without leaning your body;**
 - **Only the handlebar and front tire should turn.**
7. A bicycle is a vehicle when it is on the road. **True**
8. I should obey traffic lights when riding my bicycle on the road. **True**
9. I should ride my bicycle facing traffic. **False**
10. I can keep riding my bicycle when I hear a siren from an emergency vehicle. **False**
11. I should always signal with my hand when making a turn or stopping, while riding my bicycle. **True**
12. I only need to look straight ahead when riding my bicycle. **False**
13. I should always ride as fast as I can when I am riding my bicycle on the road. **False**
14. I should have a light on my bicycle if I am riding at night. **True**

15. List and explain at least five behaviors of cyclists who use bike paths or trails.
1. **Always stay to the right.**
 2. **Pass only on the left and move back to the right when it is safe.**
 3. **When stopped, move off the trail so others can pass.**
 4. **Only use a small portion of the trail if riding in a group, so others may safely pass.**
 5. **Always stay on the trail and be respectful of private property.**
 6. **Clean up any litter/debris and Leave No Trace (for additional information on LNT, visit www.lnt.org; this would be wonderful material to add to this and other activities/lessons).**
 7. **Vocalize all signals or warnings, either by voice (call out 'On your left' when passing) or bell/horn, giving people time to act.**
 8. **When riding at night, use a light.**
 9. **Always yield to other users who are slower.**
 10. **If you are riding downhill, always yield to riders/walkers/hikers coming uphill.**
 11. **Always be predictable and courteous.**
 12. **Small children and pets can be unpredictable.**
 13. **Use your safe cycling skills, including constant scanning.**

CYCLING CURRICULUM

ESSENTIAL KNOWLEDGE POST-TEST

Student _____ Date _____

Classroom Teacher _____ File color _____ # _____

Directions: Please answer the following questions to the best of your ability.

1. Prior to riding your bike you should do an _____ to check your bike for safety reasons.
 - a. Quick ride
 - b. Balance test
 - c. EFG Quick Check
 - d. ABC Quick Check
 - e. None of the above
2. What does ABC Quick Check stand for?
 - a. Air, Brakes, Chain/Crankset, Quick release levers, Check over in a quick ride
 - b. Air, Back tire, Chain, Quick releases levers, Check over in a quick ride
 - c. Altitude, Brakes, Cogs, Quick ride, Check it all over
 - d. Air, Back cogs, Crankset, Quick release levers, Chain
 - e. None of the above
3. To check the brakes you do which of the following?
 - a. Ride downhill really fast and then check brakes.
 - b. Don't check the brakes at all, just hope they work.
 - c. Check each brake independently by walking the bike forward and then pulling on one brake lever. The brake should make the bike stop moving.
 - d. Check each brake, but do so together by walking the bike forward and then putting on both brake levers.
 - e. None of the above.
4. You know a helmet is fitted correctly when:
 - a. It sits level on your head.
 - b. The straps form a V on both sides of the ears.
 - c. The helmet is snug and doesn't rock and roll in any direction.
 - d. There are no more than 2 fingers between the chin strap and chin.
 - e. All of the above are correct.
5. You know a bike is fitted correctly when:
 - a. The rider's knee just has a slight bend when in the 6 o'clock position.
 - b. The rider rocks side to side when pedaling.
 - c. The seat itself is either positioned nose up or nose down, instead of level.
 - d. A and B are both correct.
 - e. None of the above.

The following questions will require you to fill in the blank. Use the following words:

Balance Straight line Controlled braking Ready Position Scanning
Left turn Right turn Slowing/Stopping Rock Dodge 3 o'clock 9 o'clock

6. A _____ signal looks like this: left arm extended out, elbow bent, hand up.
7. An important safety skill is _____, in which the rider is able to look back over their shoulder to see who/what is coming up behind them.
8. _____ helps cyclists ride on two wheels is much more difficult to maintain when riding slowly.
9. A cyclist is a more predictable rider to motorists and other cyclists when they can ride in a _____.
10. It is important to use _____ when coming to a stop, so that you don't send your bike into a skid or aren't sent flying over the handlebars.
11. A _____ signal looks like this: left arm extended out, elbow bent, hand down.
12. When using a _____, you just turn the front wheel enough to avoid the obstacle; then turn quickly back the other direction.
13. The _____ helps cyclists ride over bumps and train tracks more safely because their seat is off the saddle and their feet are at _____ and _____ position.
14. A _____ signal looks like this: left arm extended straight out to the left.

The following are True/False questions. Please circle the correct answer.

- | | | |
|--|------|-------|
| 15. A bicycle is a vehicle when it is on the road. | True | False |
| 16. I should obey traffic lights when riding my bicycle on the road. | True | False |
| 17. I should ride my bicycle facing traffic. | True | False |
| 18. I can keep riding my bicycle when I hear a siren from an emergency vehicle. | True | False |
| 19. I should always signal with my hand when making a turn or stopping, while riding my bicycle. | True | False |
| 20. I only need to look straight ahead when riding my bicycle. | True | False |
| 21. I should always ride as fast as I can when I am riding my bicycle on the road. | True | False |
| 22. I should have a light on my bicycle if I am riding at night. | True | False |
| 23. Always stay to the left when riding on a bike path or trail. | True | False |
| 24. Pass only on the left and move back to the right when it is safe. | True | False |
| 25. When stopped, move off the path so others may pass safely. | True | False |
| 26. There is no need to vocalize signals or warnings, either by voice (call out 'On your left' when passing) or bell/horn when riding on a path/trail. | True | False |
| 27. Always yield to other users who are slower. | True | False |
| 28. If you are riding downhill, always yield to riders/walkers/hikers coming uphill. | True | False |
| 29. It is not necessary to use your safe cycling skills, including scanning, when riding on a bike path or trail. | True | False |
| 30. Always stay on the trail and be respectful of private property. | True | False |

CYCLING CURRICULUM

ESSENTIAL KNOWLEDGE POST-TEST

MULTIPLE CHOICE/FILL IN THE BLANK/TRUE-FALSE

ANSWER KEY

Student _____ Date _____

Classroom Teacher _____ File color _____ # _____

Directions: Please answer the following questions to the best of your ability.

- Prior to riding your bike you should do an _____ to check your bike for safety reasons.
 - Quick ride
 - Balance test
 - EFG Quick Check
 - ABC Quick Check**
 - None of the above
- What does ABC Quick Check stand for in ABC Quick Check?
 - Air, Brakes, Chain/Crankset, Quick release levers, Check over in a quick ride**
 - Air, Back tire, Chain, Quick releases levers, Check over in a quick ride
 - Altitude, Brakes, Cogs, Quick ride, Check it all over
 - Air, Back cogs, Crankset, Quick release levers, Chain
 - None of the above
- To check the brakes you do which of the following?
 - Ride downhill really fast and then check brakes.
 - Don't check the brakes at all, just hope they work.
 - Check each brake independently by walking the bike forward and then pulling on one brake lever. The brake should make the bike stop moving.**
 - Check each brake, but do so together by walking the bike forward and then putting on both brake levers.
 - None of the above.
- You know a helmet is fitted correctly when:
 - It sits level on your head.
 - The straps form a V on both sides of the ears.
 - The helmet is snug and doesn't rock and roll in any direction.
 - There are no more than 2 fingers between the chin strap and chin.
 - All of the above are correct.**
- You know a bike is fitted correctly when:
 - The rider's knee just has a slight bend when in the 6 o'clock position.**
 - The rider rocks side to side when pedaling.
 - The seat itself is either positioned nose up or nose down, instead of level.
 - A and B are both correct.
 - None of the above.

The following questions will require you to fill in the blank. Use the following words:

Balance Straight line Controlled braking Ready Position Scanning
Left turn Right turn Slowing/Stopping Rock Dodge 3 o'clock 9 o'clock

6. A **Right turn** signal looks like this: left arm extended out, elbow bent, hand up.
7. An important safety skill is **Scanning**, in which the rider is able to look back over their shoulder to see who/what is coming up behind them.
8. **Balance** helps cyclists ride on two wheels, and is much more difficult to maintain when riding slowly.
9. A cyclist is a more predictable rider to motorists and other cyclists when they can ride in a **Straight Line**.
10. It is important to use **Controlled Braking** when coming to a stop so that you don't send your bike into a skid, or aren't sent flying over the handlebars.
11. A **Slowing/Stopping** signal looks like this: left arm extended out, elbow bent, hand down.
12. When using a **Rock Dodge**, you just turn the front wheel enough to avoid the obstacle; then turn quickly back the other direction.
13. The **Ready Position** helps cyclists ride over bumps and train tracks more safely because their seat is off the saddle and their feet are at **3 o'clock** and **9 o'clock** position.
14. A **left turn** signal looks like this: left arm extended straight out to the left.

The following are True/False questions. Please circle the correct answer.

- | | |
|--|--------------|
| 15. A bicycle is a vehicle when it is on the road. | True |
| 16. I should obey traffic lights when riding my bicycle on the road. | True |
| 17. I should ride my bicycle facing traffic. | False |
| 18. I can keep riding my bicycle when I hear a siren from an emergency vehicle. | False |
| 19. I should always signal with my hand when making a turn or stopping, while riding my bicycle. | True |
| 20. I only need to look straight ahead when riding my bicycle. | False |
| 21. I should always ride as fast as I can when I am riding my bicycle on the road. | False |
| 22. I should have a light on my bicycle if I am riding at night. | True |
| 23. Always stay to the left when riding on a bike path or trail. | False |
| 24. Pass only on the left and move back to the right when it is safe. | True |
| 25. When stopped, move off the path so others may pass safely. | True |
| 26. There is no need to vocalize signals or warnings, either by voice (call out 'On your left' when passing) or bell/horn when riding on a path/trail. | False |
| 27. Always yield to other users who are slower. | True |
| 28. If you are riding downhill, always yield to riders/walkers/hikers coming uphill. | True |
| 29. It is not necessary to use your safe cycling skills, including scanning, when riding on a bike path or trail. | False |
| 30. Always stay on the trail and be respectful of private property. | True |



UNIT 7

Riding for Fitness

OBJECTIVES

At the conclusion of this unit, the student will be able to:

1. Describe the need to develop the ability to ride for a sustained period of time, as measured by completion of the *Sustained Riding worksheet*. (Cognitive)
2. Demonstrate exceptional or reliable performance of riding in the identified heart rate zones as measured by the heart rate zone rubric. (Psychomotor).
3. Demonstrate exceptional or reliable performance of a preferred cadence using a cyclometer or as measured by the cyclometer and cadence rubric. (Psychomotor).
4. Demonstrate exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)
5. List and describe key concepts from Unit 7 that illustrate elements of riding for fitness, as measured by providing responses to questions in journals. (Cognitive)
6. Describe how they feel about their ability to ride safely and their level of enjoyment of bicycling, as measured by providing responses to questions in journals. (Affective)

The skill-based activities in Units 1-3 create the foundation for safe bicycling. Regardless of students' skill level or previous bicycling knowledge, the skill-based activities in Units 1-3 should be completed before completing the activities in Unit 7.

NATIONAL STANDARDS FOR K-12 PHYSICAL EDUCATION

Standard 1

The physically literate individual demonstrates competency in a variety of motor skills and movement patterns.

Standard 2

The physically literate individual applies knowledge of concepts, principles, strategies and tactics related to movement and performance.

Standard 3

The physically literate individual demonstrates the knowledge and skills to achieve and maintain a health-enhancing level of physical activity and fitness.

Standard 4

The physically literate individual exhibits responsible personal and social behavior that respects self and others.

Standard 5

The physically literate individual recognizes the value of physical activity for health, enjoyment, challenge, self-expression and/or social interaction.

KEY VOCABULARY

Cyclometer: A monitoring device that measures speed, distance, time and cadence while riding a bicycle.

Exercise Intensity: The amount of energy that is expended when exercising.

Heart Rate: The number of heartbeats per unit of time typically expressed as beats per minute (bpm). Heart rates can vary as the body's need to absorb oxygen and excrete carbon dioxide changes, such as during exercise. Bicyclists monitor their heart rate to gain maximum efficiency from training.

Heart Rate Monitor: A monitoring device that measures intensity of heartbeats. Heart rate monitors usually comprise two elements: a chest strap transmitter and a wrist receiver. Strapless heart rate monitors allow the bicyclist to touch two sensors on a wristwatch display for a few seconds to view their heart rate.

Rate of Perceived Exertion (RPE): A concept describing the use of physical or perceived energy. Measures strenuous effort related to physical activity, such as bicycling.

Sustained Riding: Bicycling at an intensity that allows the body's need for oxygen to be continually met.

ACTIVITIES

Each unit should include three types of activities: introduction, skill-based with assessments and cool-down/closure. In some cases, more than one activity option is offered for the introduction and closure; choose the appropriate activities that fit into your allotted class time when developing your lesson plans. If class time is too short to allow for all three types of activities, focus your lesson on the skill-based activities.

Introduction: The following activity can be used to introduce this unit of learning.

- Walk & Share

Skill-Based with Assessments: Each skill-based activity is associated with an assessment to measure student knowledge and application of the identified skill. Depending on the amount of class time available and the skill level of students, more than one of the following skill-based activities may be completed during one class.

- Target Heart Rate
- Cyclometers and Cadence

Closure: The following activity can be used to conclude this unit of learning. If desired, this activity can be assigned as homework.

- Journal Writing

EQUIPMENT NEEDED

- Bicycles
- Helmets
- Head barriers
- Cones, domes, polypots or chalk to mark riding course
- Heart rate monitors
- Cyclometers
- Bicycle trainers
- Stopwatches
- *Sustained Riding* worksheet
- *Target Heart Rate* worksheet
- Pencils
- Student Journals

CROSS-CURRICULAR ACTIVITIES

Language Arts

- Journal writing

Mathematics

- use of heart rate monitors, pedometers or cyclometers



INTRODUCTION ACTIVITY

Walk & Share / Sustained Riding

Timeframe	Beginner: 5-7 minutes Intermediate: 5-7 minutes Advanced: 5-7 minutes
Objective	By the conclusion of this activity, the student will be able to: <ol style="list-style-type: none">1. Describe the need to develop the ability to ride for a sustained period of time, as measured by completion of the <i>Sustained Riding worksheet</i>. (Cognitive)
National Standards	Standard 2 Standard 4
Equipment	<ul style="list-style-type: none">• <i>Sustained Riding worksheet</i>• Pencils
Teacher Overview	This activity prompts students to begin thinking about how sustained riding relates to bicycle safety. Walking while discussing the questions will initiate peer discussion about bicycle maintenance and keep students moving.
Preparation	Make appropriate number of copies of the <i>Sustained Riding worksheet</i> .
Directions	<ol style="list-style-type: none">1. Introduce this activity using the following prompt: <i>Today, we are going to begin to talk about how being able to ride a bicycle for a sustained period of time can enhance your enjoyment and safety when riding.</i>2. Divide students into groups of two or three.3. Ask students to walk the perimeter of the gym while answering the questions on the <i>Sustained Riding worksheet</i>. Instruct students they may need to stop to write a quick answer, but should continue moving as much as possible or have them write the answers when the walking is completed.4. Instruct students to stop when the whistle blows and be prepared to share something they discussed with their partner(s).
Assessment	Successful completion of the <i>Sustained Riding worksheet</i>
Safety	Do not let students run or walk too quickly if carrying pencils.
Differentiating Instruction	Intermediate and Advanced <ul style="list-style-type: none">• Set up lanes that students need to travel in. Include stop signs and intersections.
Best Practice	Complete this activity when weather prevents riding outside.

SUSTAINED RIDING WORKSHEET



Student _____ Date _____

Directions: Answer the questions below.

1. When might you want or need to ride your bicycle for a sustained period of time?
2. What does it take to ride for a longer period of time?
3. How might it feel to ride your bicycle over a longer distance?
4. How does bicycling relate to 'lifetime physical activity'?

SUSTAINED RIDING WORKSHEET

ANSWER KEY



1. When might you want or need to ride your bicycle for a sustained period of time?

You may want or need to ride your bicycle for a sustained period of time if you are 'training' for a triathlon or a long bicycle riding event, riding a bicycle for transportation, riding a bicycle for running errands. You may accept other answers, too.

2. What does it take to ride for a longer period of time?

To ride a bicycle for a long period of time you need muscular strength and endurance and a strong cardiovascular system. You may accept other answers, too.

3. How might it feel to ride your bicycle over a longer distance?

It might feel tiring, exhilarating, fun and rewarding to ride your bicycle over a longer distance. You may accept other answers, too.

4. How does bicycling relate to 'lifetime physical activity'?

Bicycling is a great lifetime physical activity that people of all ages and skill levels can participate in successfully that will improve heart health and it's FUN! You may accept other answers, too.



SKILL-BASED ACTIVITY

Target Heart Rate

Timeframe

Beginner: N/A
Intermediate: 30–45 minutes
Advanced: 30–45 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance of riding in the identified heart rate zones as measured by the heart rate zone rubric. (Psychomotor).
2. Demonstrates exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

Equipment

- Helmets
- Head barriers
- Bicycles
- Bicycle pump
- Cones, domes, polypots or chalk to mark riding course
- Stopwatch
- Heart rate monitors
- *Target Heart Rate* worksheet
- Pencils

Teacher Overview

This activity introduces the concept of exercise intensity as measured by the heart rate. Students will determine target heart rate zones of various intensities and then using heart rate monitors, attempt to ride within those target zones for a period of time. This activity is not recommended for beginner or adapted riders.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times while they are riding for an extended period of time.
2. Clean and prepare heart rate monitors for use.
3. Make appropriate number of copies of *Target Heart Rate* worksheet.
4. Prior to using heart rate monitors, students should have learned how to monitor heart rate by putting their fingers over either the radial or carotid artery.

Directions

1. Introduce this activity using the following prompt:

Some days we might want to go on an easy ride; other days we might want to ride harder or faster to challenge ourselves and improve our bicycling fitness level. Using a heart rate monitor can help us know just how hard we're riding. It is important to know what your maximum heart rate is. Once you know your maximum heart rate, you can calculate your desired target heart rate zone — the level at which your heart is being exercised and conditioned but not overworked. Working out within your target heart rate zone gives you the best results for burning fat and losing weight. If you work out below that zone, you reduce your exercise intensity and you may not burn as many calories. If you work out above that zone, you may not be able to work out as long as you planned.

2. Use the following sample questions to prompt students' thinking about the content in this activity.

Q: What is exercise intensity?

A: The amount of energy that is expended when exercising. Exercise intensity also is reflected in how hard your heart is working. Exercising at the correct intensity can help you can get the most out of your physical activity

Q: What are ways we can measure exercise intensity?

A: There are 2 ways to measure exercise intensity: (1) How you feel; how hard physical activity feels to you while you're doing it. This is often referred to as Rating of Perceived Exertion, RPE. The suggested scale is a 1-10 scale: 1 being lying in bed and 10 being, 'can't do any more' level of exertion. (2) Heart rate provides an objective look at exercise intensity; the higher the heart rate during physical activity, the higher the exercise intensity.

3. Instruct students to calculate their resting heart rate by counting the number of beats in 10 seconds and then multiply by 6.
4. Enter this number on the *Target Heart Rate* worksheet.
5. Complete the *Target Heart Rate* worksheet to identify the various zones.
6. Distribute heart rate monitors to students.
7. Check heart rate monitors to ensure they are on each student and adjusted accordingly.
8. Complete the following steps #9-16 if *Helmet Fit* and *ABC Quick Check* have not been completed as part of the current day's lesson; otherwise proceed to step #17.
9. Divide students into groups of two or three.
10. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.





It is important to consider fitness level when students are riding for a sustained amount of time. A sustained ride can be in a particular heart rate zone, if desired, but it is important for teachers to monitor students for exertion, particularly in hot and/or humid weather.

11. Instruct students to retrieve bicycles according to number assigned.
12. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly, and to provide prompts if an item was missed. Switch roles.
13. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
14. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
15. Instruct students to identify the perceived intensity and compare to the heart rate monitor reading.
16. Explain to students that they will be riding at three different intensity levels for various periods of time.
 - Light exercise intensity: 40 to 50 percent of your maximum heart rate
 - Moderate exercise intensity: 50 to 70 percent of your maximum heart rate
 - Vigorous exercise intensity: 70 to 85 percent of your maximum heart rate
17. State everyone's identified heart rate zones will differ slightly.
18. Instruct students they will be riding for seven minutes at each intensity level; move to the next level when the whistle blows:
 - 40-50% of maximum heart rate for three minutes
 - 50-70% of maximum heart rate for three minutes
 - 70-85% of maximum heart rate for one minute
19. Instruct students to return to teaching station to verify heart rates.
20. Instruct students they will be riding for five minutes at each intensity level; move to the next level when the whistle blows:
 - 50-70% of maximum heart rate for two minutes
 - 70-85% of maximum heart rate for one minute
 - 50-70% of maximum heart rate for two minutes
21. Instruct students to return to teaching station to verify heart rates.
22. Instruct students they will be riding for twelve minutes at each intensity level; move to the next level when the whistle blows:
 - 40-50% of maximum heart rate for five minutes
 - 70-85% of maximum heart rate for three minutes
 - 50-70% of maximum heart rate for three minutes
 - 40-50% of maximum heart rate for one minute

Assessment

1. Assess performance of riding in the identified heart rate zone of each student using the following rubric.

PERFORMANCE RUBRIC: RIDING IN THE TARGETED HEART RATE ZONE



Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is committed to riding safely during activity;</p> <p>Student reliably maintains a safe speed and distance, without reminders from the teacher.</p> <p>Student is able to ride continuously, according to their identified zones for the identified period of time.</p>	<p>Student is committed to riding safely during activity;</p> <p>Student maintains a safe speed and distance during activity, but may need a reminder/prompt from teacher;</p> <p>Student is able to ride the majority of the time, according to their identified zones for the identified period of time.</p>	<p>Student is somewhat committed to safe riding, particularly when a teacher prompts appropriate riding behavior;</p> <p>Student will maintain a safe speed and distance during the activity, with reminders and supervision;</p> <p>Student is able to ride some of the time, according to their identified zones for the identified period of time.</p>	<p>Student is unable to participate in the activity due to unsafe behavior;</p> <p>Student lacks control of his bike and balance, so that riding in this activity is unsafe for all involved;</p> <p>Student is unable to ride, according to their identified zones for the identified period of time.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Not appropriate for these riders.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between bicyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.

TARGET HEART RATE ZONE



Student _____ Date _____

Resting Heart Rate = _____ **Maximum Heart Rate** = $220 - \text{Age}$ _____ = _____

1. (Maximum Heart Rate – Resting Heart Rate X 0.40) + Resting Heart Rate Target Heart Zone 40%
(_____ - _____ X 0.40) + _____ = _____

2. (Maximum Heart Rate – Resting Heart Rate X 0.50) + Resting Heart Rate Target Heart Zone 50%
(_____ - _____ X 0.50) + _____ = _____

3. (Maximum Heart Rate – Resting Heart Rate X 0.70) + Resting Heart Rate Target Heart Zone 70%
(_____ - _____ X 0.70) + _____ = _____

4. (Maximum Heart Rate – Resting Heart Rate X 0.85) + Resting Heart Rate Target Heart Zone 85%
(_____ - _____ X 0.85) + _____ = _____



SKILL-BASED ACTIVITY

Cyclometers & Cadence

Timeframe

Beginner: N/A
Intermediate: 10-15 minutes
Advanced: 10-15 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. Demonstrate exceptional or reliable performance of a preferred cadence using a cyclometer or as measured by the cyclometer and cadence rubric. (Psychomotor).
2. Demonstrates exceptional or reliable social behavior as measured by the social behavior rubric. (Affective)

National Standards Standard 1
Standard 2
Standard 3
Standard 4
Standard 5

Equipment

- Helmets
- Head barriers
- Bicycles
- Cones, domes, polyspots or chalk to mark riding course
- Stopwatch
- Cyclometers
- Bicycle Trainers

Teacher Overview

This activity strengthens the understanding of cadence. Students will make adjustments to the gears on the bicycle to reach various cadences. Cyclometers are introduced as a type of equipment that enables cadence to be easily monitored.

Preparation

1. Designate a riding course that enables the teacher to see the students at all times. This will enable students to ride throughout the class period, even when they are not performing skills.
2. Set up a “chute” using cones, to indicate where the student will perform the skill and the teacher will conduct the assessment. This area should also serve as a teaching station in which the skill will be demonstrated for the students, and where students will return when instructed.
3. If a full class set of bicycle trainers is available, set them up in the chute. Students will attach bicycles after completing the ABC Quick Check.
4. If a full set of bicycle trainers is not available, set up available trainers and extra bicycles in the chute. Groups of students will rotate through the trainers, while other students continue riding the designated course.

Directions



5. Attach and set up cyclometers to bicycles that are attached to bicycle trainers.
1. Introduce this activity using the following prompt:

Today, we are going to talk more about using gears to maintain an identified cadence. Many bicyclists use bicycle computers called cyclometers to easily measure things such as speed, distance and cadence. We are going to use both gear ratio and the cyclometer to achieve and maintain various cadences.
2. Complete the following steps #3-9 if Helmet Fit and ABC Quick Check have not been completed as part of the current day's lesson; otherwise proceed to step #10.
3. Divide students into groups of two or three.
4. Instruct students to fit helmets and have partner(s) check if the helmet is fitted correctly.
5. Instruct students to retrieve bicycles according to number assigned.
6. Instruct one student to complete the ABC Quick Check while the partner observes to ensure that the check was completed properly, and to provide prompts if an item was missed. Switch roles.
7. Instruct pairs to proceed to the riding area to meet teacher after students have successfully completed the helmet fit and ABC Quick Check.
8. Inspect helmets and instruct students to proceed on the riding course for the 'Check' of the ABC Quick Check and when finished return to the teaching station.
9. Explain and demonstrate skills to students in the teaching station reinforcing the following points. Riders should:
 - Adjust the bicycle trainer resistance and gear ratio to find a comfortable cadence somewhere in the range of 50-60 RPM, the preferred cadence of most recreational bicyclists, using the cyclometer.
 - Continue at this cadence for 5 minutes
 - Try to increase the cadence, without changing the gear ration or the bicycle trainer resistance, to the preferred cadence of competitive cyclists, 80-100 RPM.
 - Try to continue at this cadence for 30 seconds.
 - Change the gear ration to maintain this cadence for 1 minute.

If a full class set of bicycle trainers is available:

10. Instruct students to attach the bicycle to the bicycle trainer.
11. Instruct students to experiment with gears to feel the impact on cadence.
12. Instruct students to identify the gear ratio that provides a comfortable cadence.

If a partial set of bicycle trainers is available:

13. Divide students into groups based on the number of trainers available.
14. Instruct students to experiment with gears to feel the impact on cadence.
15. Instruct students to identify the gear ratio that provides a comfortable cadence.
16. Instruct other students to continue riding the designated course.
17. Rotate groups of students through the trainers.

Assessments

1. Assess performance of cadence using a cyclometer for each student using the following rubric.

PERFORMANCE RUBRIC: CADENCE USING A CYCLOMETER

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student has the ability to ride their bicycle on a trainer continuously at the 50-60 RPM cadence and increase the intensity to the 80-100 RPM cadence for the prescribed amount of time using the correct adjustments to the gears on the bicycle; Student can shift gears without causing the chain to fall off or to get locked up.</p>	<p>Student has the ability to ride their bicycle on a trainer for the most part at the 50-60 RPM cadence and increase the intensity to the 80-100 RPM cadence for the prescribed amount of time using the correct adjustments to the gears on the bicycle but may need a reminder/prompt from teacher; Student can shift gears without causing the chain to fall off or to get locked up.</p>	<p>Student does not have the ability to ride their bicycle on a trainer continuously at the 50-60 RPM cadence and increase the intensity to the 80-100 RPM cadence for the prescribed amount of time using the correct adjustments to the gears on the bicycle without repeated reminders/prompts from the teacher; Student cannot shift gears without occasionally causing the chain to fall off or to get locked up.</p>	<p>Student does not have the ability to ride their bicycle on a trainer continuously at the 50-60 RPM cadence and increase the intensity to the 80-100 RPM cadence for the prescribed amount of time using the correct adjustments to the gears on the bicycle; Student is always in the incorrect gear and needs to be told when to shift; Student is unable to shift while moving; Student often causes the chain to fall off or lock up because of poor shifting.</p>

2. Assess the performance of social behavior for each student using the following rubric.

PERFORMANCE RUBRIC: SOCIAL BEHAVIOR 

Exceptional	Reliable	Inconsistent	Struggling/ Survival
<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, without teacher prompting or supervision;</p> <p>Student is able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student perseveres, even through difficult skills/activities, and maintains a positive attitude;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student is respectful toward classmates, teacher, and equipment;</p> <p>Student receives and uses feedback from teacher and peers in a courteous manner;</p> <p>Student participates fully, but needs some teacher prompting and/or supervision;</p> <p>Participates in most class activities at an appropriate and productive level;</p> <p>Student is most often able to work cooperatively and productively with classmates, including during peer assessments;</p> <p>Student is able to work hard and not get frustrated with setbacks;</p> <p>Student is committed to learning;</p> <p>Student is committed to engaging in cycling in a safe manner, and keeping all classmates safe during the cycling unit.</p>	<p>Student may not always be respectful toward classmates, teacher, and equipment;</p> <p>Student may listen to feedback from teacher or peers, but may not attempt and/or have difficulty applying it;</p> <p>Student requires some teacher supervision, but does exhibit some self-control at times;</p> <p>Student demonstrates the ability to work cooperatively and productively with classmates, but may need teacher direction or supervision;</p> <p>Student participates in most class activities;</p> <p>Student is willing to try, but may get frustrated with setbacks, and pout and/or verbalize frustration;</p> <p>Student may fluctuate between riding safely and unsafely at times.</p>	<p>Student may struggle with being respectful toward classmates, teacher, and equipment and/or show anger and/or blame others for cycling mishaps;</p> <p>Student does not listen to feedback from teacher or peers, and does not attempt to apply it;</p> <p>Student requires ongoing supervision and does not ride safely;</p> <p>Student may be unprepared and show very little interest in learning or the activity;</p> <p>Student becomes frustrated easily and may quit participating.</p>

Safety



1. Follow the 2-2-2-2 Rule (2 wheels on the ground; 2 feet on the pedals; 2 hands on the handlebars; 2 fingers on the brake levers) while riding the bicycle.
2. Use the rear brake only to stop the bicycle, until the skill level advances to be able to safely use the front brake.
3. Instruct students to ride the bicycles on the designated course.
4. Instruct students to keep at least three-bicycles-lengths between each rider.

Differentiating Instruction

Adapted and Beginner

- Not appropriate for these riders.

Intermediate and Advanced

- Some students may not be able to ride in a higher cadence and/or heart rate zone and/or some students may need to monitor their heart rates to keep their heart rate in the lower zone.

Best Practices



1. Provide a discreet opportunity and safe environment for students to share information pertaining to their ability and comfort level for riding a bicycle.
2. Always complete the Helmet Fit and ABC Quick Check at the beginning of every class in which the students will be riding. The use of peers/partners to practice, inspect, and correct each other will make the most efficient use of class time and reinforce bicycle safety skills. This should not replace teacher assessment.
3. Review the three-bicycles-length rule to promote safe riding. The three-bicycles-length rule is a reminder of keeping a safe distance between bicyclists while riding single-file. To help maintain proper spacing, have a marker on the course that allows students to see when it is their turn to go. When the first rider gets to the marker, the next student may start riding.



CLOSING ACTIVITY

Journal Writing

Timeframe

Beginner: 10–15 minutes
Intermediate: 10 minutes
Advanced: 10 minutes

Objectives

At the conclusion of this activity the student will be able to:

1. List and describe key concepts from Unit 7 that illustrate elements of riding for fitness, as measured by providing responses to questions in journals. (Cognitive)
2. Describe how they feel about their ability to ride safely and their level of enjoyment of bicycling, as measured by providing responses to questions in journals. (Affective)

National Standards Standard 2
Standard 5

Equipment • Journals or portfolios for each student

Teacher Overview This activity prompts students to think about what they have learned during the fourth unit by asking questions about basic bicycling skills and providing written responses in journals.

- Preparation**
1. Determine method for distributing, collecting and storing portfolios or journals before beginning this activity.
 2. Modify questions based on activities completed by students.

- Directions**
1. Introduce this activity using the following prompt:
We've now completed Unit 7 – "Riding for Fitness." All of the skills learned in this unit will help you be a more efficient bicyclist when you are out riding and hopefully to think about how bicycling can be a lifetime activity.
 2. Provide portfolios or journals for students to write in.
 3. Choose a location where students can sit comfortably and complete assignment if completing journal writing activity in class.
 4. Use the following sample questions to prompt students' thinking about the content presented in this unit.

Q: What are at least three health benefits you receive from riding a bicycle?

- A:** Any of the following:
- Cardiovascular health
 - Weight loss
 - Better health
 - Non-impact sport
 - Other responses accepted

Q: What were the three different riding intensities that were discussed in Unit 7?

A: Light, Moderate and Vigorous

Q: How can riding with a cyclometer assist a bicyclist with obtaining optimal performance?

A: Cyclometers can measure cadence. This helps a bicyclist know when he/she is staying with the cadence that provides them with optimal performance.

Q: What have you enjoyed most in this bicycling unit?

A: All responses accepted

Assessment

1. Be thoughtful about assessing journal writing, particularly when asking open-ended “opinion-type” questions. Not all students may enjoy bicycling and should be allowed to voice their opinions. To encourage honest answers, refrain from grading thoughts and opinions. However, this should not be an excuse for not learning the material.
2. Consider assessing writing skills and integrate literacy (spelling, use of correct grammar and complete sentences, etc.) in journal writing. Some teachers may want to specify length of answers for specific questions (e.g., answer must be at least two sentences).

Safety

None

Differentiating Instruction

All levels

- Choose questions that are appropriate for the age and ability level of students.
- Some students may need to share their answers verbally with a teacher if they have difficulty writing.
- Some students may need the teacher or an aide to read the questions.

Best Practices

1. Complete this activity in classroom settings, health classes or science classes if cross-curricular units are planned or to maximize riding time in physical education class.
2. Assign the journal writing for Unit 4 as homework to maximize riding time in physical education class.



SECTION 4

Appendices

Bike-Friendly Community Assessment (Teen Version)

www.nhtsa.gov/staticfiles/nti/pdf/8014-BikeabilityChecklistForYouth.pdf

Walk-Friendly Community Assessment (Teen Version)

www.nhtsa.gov/staticfiles/nti/pdf/8015-WalkabilityChecklistForYouth.pdf

Bicycle Safety: Tips for Youth

www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8024a_YouthTips.pdf

Be a “Roll” Model: Wear a Helmet

www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8010-wear_a_helmet.pdf

Fitting Your Bike Helmet

www.nhtsa.gov/staticfiles/nti/bicycles/pdf/8019_Fitting-A-Helmet.pdf

Avoid the Hazards Worksheet

www.nhtsa.gov/staticfiles/nti/bicycles/pdf/BikeRidingHazards.pdf

Right-of-Way Worksheets

www.nhtsa.gov/Driving+Safety/Bicycles/RightOfWay